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Attorneys for Plaintiffs

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF SANTA CLARA

KEN ALLEN, LACY ATKINSON, DALE FOSTER, TOM AFFLIXIO, JIM CARTER, JOSE AVILA, CHUCK GLUCK, DON JONASSON, BOB KING, KEITH KJELDSEN, EDWARD LAKE, DAVE MOORE, BOB NAUGHTEN, TOM SCULLY, JOHN SKEEN, JR., DAVID JIMENEZ, STEVE O'CONNOR, JIM MCCLURE, WAYNE CHAPP, PESHA PERLSWEIG, SUSAN GLUCK, FRAN JONASSON,

Plaintiffs,

vs.

3M COMPANY, E. I. DU PONT DE NEMOURS & CO., THE CHEMOURS COMPANY L.L.C., ARCHROMA U.S., INC., ARKEMA, INC., AGC CHEMICALS AMERICAS, INC., DAIKIN AMERICA, INC., DYNAX CORPORATION, JOHNSON CONTROLS, INC., TYCO FIRE PRODUCTS, L.P., CHEMGUARD, INC., NATIONAL FOAM, INC., CARRIER GLOBAL CORPORATION, KIDDE-FENWAL, INC., PERIMETER SOLUTIONS, LP, FIRE SERVICE PLUS, INC., BUCKEYE FIRE

Case No: 21CV378917

COMPLAINT FOR DAMAGES AND INJUNCTIVE RELIEF

DEMAND FOR JURY TRIAL

EQUIPMENT, AMEREX CORPORATION, MINE SAFETY APPLIANCE COMPANY LLC, GLOBE MANUFACTURING COMPANY LLC, LION GROUP, INC., W. L. GORE & ASSOCIATES, INC., TEN CATE PROTECTIVE FABRICS USA D/B/A SOUTHERN MILLS INC., PBI PERFORMANCE PRODUCTS, INC., HONEYWELL SAFETY PRODUCTS USA, INC., STEDFAST USA, INC., L.N. CURTIS & SONS, ALLSTAR FIRE EQUIPMENT, MALLORY SAFETY AND SUPPLY LLC, MUNICIPAL EMERGENCY SERVICES INC. and DOES 1 through 25,

Defendants,

Plaintiffs Ken Allen, Lacy Atkinson, Dale Foster, Tom Afflixio, Jim Carter, Jose Avila, Chuck Gluck, Don Jonasson, Bob King, Keith Kjeldsen, Edward Lake, Dave Moore, Bob Naughten, Tom Scully, John Skeen, Jr., David Jimenez, Steve O'Connor, Jim McClure, Wayne Chapp, Pesha Perlsweig, Susan Gluck, and Fran Jonasson by and through their attorneys of record, allege as follows:

INTRODUCTION

1. Plaintiffs are 19 current and retired firefighters who have served the city of San Jose and city of Gilroy as firefighters and worked in various fire stations, engine, truck, and specialized companies in the County of Santa Clara and surrounding counties for decades (collectively, the "Firefighter Plaintiffs"), and three of their spouses (collectively, the "Spouse Plaintiffs").

2. Plaintiffs bring this action for monetary damages and appropriate equitable and injunctive relief for harm resulting from exposure to per- and polyfluoroalkyl substances ("PFAS") that were manufactured, designed, sold, supplied, distributed and/or contained in products manufactured, designed, sold, supplied and/or distributed by each of the Defendants, individually or through their predecessors or subsidiaries

3. PFAS are human-made chemicals consisting of a chain of carbon and fluorine atoms used in manufactured products to, *inter alia*, resist and repel oil, stains, heat and water. PFAS include "long-chain" PFAS made up of seven or more carbon atoms ("long-chain PFAS") as well as "short-chain" PFAS made up of six or fewer carbon atoms ("short-chain PFAS").

4. PFAS are known as "forever chemicals" because they are immune to degradation, bio-accumulate in individual organisms and humans, and increase in concentration up the food chain. PFAS exposure to humans can occur through inhalation, ingestion and dermal contact.[1]

5. PFAS have been associated with multiple and serious adverse health effects in humans including cancer, tumors, liver damage, immune system and endocrine disorders, high cholesterol, thyroid disease, ulcerative colitis, birth defects, decreased fertility, and pregnancy-induced hypertension. PFAS have also been found to concentrate in human blood, bones and organs and, most recently, to reduce the effectiveness of vaccines, a significant concern in light of COVID-19.

6. Unbeknownst to Plaintiffs, Defendants have manufactured, marketed, distributed, sold, or used PFAS and PFAS-containing materials in protective clothing specifically designed for firefighters ("turnouts") and in Class B firefighting foams ("Class B foam").[2]

7. For decades, Defendants were aware of the toxic nature of PFAS and the harmful impact these substances have on human health. Yet, Defendants manufactured, designed, marketed, sold, supplied, or distributed PFAS and PFAS chemical feedstock,[3] as well PFAS-containing turnouts and Class B foam, to firefighting training facilities and fire departments nationally, including in California and in Santa Clara County. Defendants did so, moreover, without ever informing firefighters or the public that their turnouts and Class B foams contained PFAS, and without warning firefighters or the public of the substantial and serious health injuries that can result

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[1] Suzanne E. Fenton, MS, PhD, *PFAS Collection*, Environmental Health Perspectives (February 22, 2019), https://ehp.niehs.nih.gov/curated-collections/pfas.

[2] Class B foams are synthetic "soap-like" foams that spread rapidly across the surface of a fuel or chemical fire to stop the formation of flammable vapors. The most common Class B foam is aqueous film-forming foam (or "AFFF").

[3] Chemical feedstock refers to a chemical used to support a large-scale chemical reaction. The PFAS chemicals utilized to manufacture products containing PFAS are generally referred to herein as "chemical feedstock."

from exposure to PFAS or PFAS-containing materials.

8. The Firefighter Plaintiffs wore turnouts and used Class B foam in the usual and normal course of performing their firefighting duties and training and were repeatedly exposed to PFAS in their workplace. They did not know and, in the exercise of reasonable diligence, could not have known that these products contained PFAS or PFAS-containing materials. They also did not know that PFAS was in their bodies and blood.

9. Meanwhile, at all relevant times and continuing to the present, Defendants have represented that their turnouts and Class B foams are safe.

10. The Firefighter Plaintiffs did not learn of their PFAS exposure until January 2021, when blood serum tests revealed that they had significantly elevated levels of PFAS in their blood.

11. The Firefighter Plaintiffs use and/or used the turnouts and Class B foam as they were intended and in a foreseeable manner which exposed them to PFAS in the course of their firefighting activities. This repeated and extensive exposure to PFAS resulted in cancers and other serious and life-threatening diseases to the Firefighter Plaintiffs. Their PFAS exposures continue to pose a significant threat to their personal health due to PFAS' persistence, pervasiveness, toxicity and bioaccumulation.

12. Defendants knowingly and willfully manufactured, designed, marketed, sold, and distributed chemicals and/or products containing PFAS for use within the State of California when they knew or reasonably should have known that the Firefighter Plaintiffs would repeatedly inhale, ingest and/or have dermal contact with these harmful compounds during firefighting training exercises and in firefighting emergencies, and that such exposure would threaten the health and welfare of firefighters exposed to these dangerous and hazardous chemicals.

13. Plaintiffs bring this action against Defendants and seek damages, together with any appropriate injunctive or other equitable relief.

PARTIES TO THE ACTION

Plaintiffs

A. The Firefighter Plaintiffs

14. Ken Allen has been in the fire service for ten years, following in the footsteps of his

father who served in the San Francisco Fire Department for 33 years and his grandfather who served in the Boston Fire Department. Ken is a San Jose firefighter currently assigned to Squad 18 as a firefighter/paramedic located at Fire Station 18, serving the Hellyer neighborhood of south San Jose. Ken's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He has also received specialized training in advance cardiac life support, pediatric advanced life support, high-rise fires, and low-angle rope rescue operations. In one of Ken's most memorable calls, he and his partner rescued two unconscious men from a burning second story apartment building and provided advanced life support; both survived. Ken has also delivered six babies. In the course of firefighting training and fire suppression activities, Ken routinely wears and/or wore turnouts and uses and/or has used Class B foam. He was unaware that the turnouts he wears and/or wore, and the Class B foam he uses and/or used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. He has been diagnosed with and treated for olfactory nerve cancer and brain cancer.

15. Lacy Atkinson was in the fire service for 26 years, and prior to that, served in the United States Marine Corp. He worked as a firefighter, fire engineer, fire captain, battalion chief and deputy fire chief, spending many years working at Fire Station 18, which serves the Edendale neighborhood of San Jose. Lacy's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fire ground command, low-angle rope rescue operations, and fire administration. As Deputy Chief of the SJFD, Lacy was the Fire Marshal for the city of San Jose. During his career, he also advocated for diversity and racial equality in the fire service, founded and was president of the Black Firefighters Association, served as the representative for minority affairs in IAFF Local 230, and worked on establishing privacy spaces to accommodate women firefighters. Lacy is also a graduate of Stanford University. In the course of firefighting training and fire suppression activities, Lacy routinely wore turnouts and used Class B foam. He was unaware that

the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. He has been diagnosed with and has been treated for prostate cancer.

16. Dale Foster was in the fire service for 40 years, 31 years of which were in the City of San Jose Fire Department and seven years of which were in the City of Gilroy Fire Department. He worked as a firefighter, fire engineer, fire captain, battalion chief, deputy chief, assistant fire chief, and fire chief spending many years working at Hazardous Incident Team ("HIT) at SJFD Fire Station 29, serving the neighborhoods of north San Jose. The HIT team responded to calls for flammable liquid spills, drug labs, vehicle accidents and hazardous materials incidents. Dale's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fire ground command, low-angle rope rescue operations, fire administration, and hazardous materials. Dale is proud of his effort as fire chief to change the fire code requiring greater safety requirements in high-rise buildings in San Jose and throughout California. In the course of firefighting training and fire suppression activities, Dale routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. He has been diagnosed with and has been treated for prostate cancer.

17. Tom Afflixio was in the fire service for 32 years, 29 of which were in the City of San Jose Fire Department. He worked as a firefighter, fire engineer, fire captain, and battalion chief, spending many years at Fire Station 1, serving the Hensley neighborhood of downtown San Jose. Tom's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fire ground command, low-angle rope rescue operations, and fire administration. As a battalion chief, Tom was in charge of supervision, administration and large emergency incidents, and training for six stations. He earned many awards for his work in the fire service, including a Firefighter of the

Year Award in 1990 and 1997-98, SJFD Devoted Service Award and fourteen letters of commendation. Tom also delivered four babies during his career. One of his most memorable experiences was his volunteer work for Operation Santa which he co-founded in collaboration with the Santa Clara County Children's Shelter. During the 18 years he was involved, Operation Santa raised thousands of dollars every year to buy children in the shelter clothing and gifts from their wish lists. In the course of firefighting training and fire suppression activities, Tom routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. He was diagnosed with and has been treated for a schwannoma tumor.

18. Jim Carter was in the fire service for 35 years. He worked as a firefighter, fire engineer, fire captain, battalion chief, and deputy fire chief, spending many years working at Fire Station 1, which served the Hensley neighborhood of downtown San Jose. Jim's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fire ground command, low-angle rope rescue operations, and fire administration. As a deputy chief, Jim was responsible for Bureau of Field Operations. As a battalion chief, he served as the SJFD safety officer and was required to respond to multiple alarm fires. One of his most significant memories was the rescue of ten people from a burning Victorian-era home. Jim also volunteered for FEMA Task Force 3 which conducted urban search and rescue operations. He was deployed with Task Force 3 to New Orleans after Hurricane Katrina and received a Class A Medal of Valor for the rescue of a trapped man in the flood ravaged city. In the course of firefighting training and fire suppression activities, Jim routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. He has been diagnosed with and has been treated for prostate cancer.

19. Jose Avila was in the fire service for 30 years in the City of San Jose Fire Department.

He worked as a firefighter and fire engineer, spending many years at Fire Station 19, protecting the Piedmont neighborhood of east San Jose. Jose's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. Jose earned a commendation for the rescue of a man while he was on vacation with his family in Mexico. One of his most memorable calls was being flown by helicopter with the "jaws of life" to rescue a forestry firefighter who was trapped in a truck that crashed on Mt. Hamilton, saving the firefighter's life. Jose also delivered six babies during his career. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. Jose has been diagnosed with and treated for prostate cancer.

20. Chuck Gluck was in the fire service for 37 years, 28 of which were in the City of San Jose Fire Department and eight years for the Watsonville Fire Department. He worked as a firefighter, fire engineer, fire inspector, fire captain, and battalion chief, spending many years working at Fire Station 5, serving the Japantown neighborhood of San Jose. Chuck's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fire ground command, low-angle rope rescue operations, fire administration and specialized training related to hazardous materials incidents. While working on Engine 27 in south San Jose, Chuck responded to a call for an infant with an obstructed airway who was turning blue and performed the Heimlich maneuver, saving the infant's life. In the course of firefighting training and fire suppression activities, Chuck routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. He has been diagnosed with and has been treated for aggressive B-cell lymphoma.

21. Don Jonasson was in the fire service for 31 years in the City of San Jose Fire Department. He worked as a firefighter, fire engineer, fire captain, and battalion chief, spending many years working at Fire Station 18, serving the Seven Trees neighborhood of south San Jose. Don's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fire ground command, low-angle rope rescue operations, and fire administration. As a battalion chief, Don served as the Assistant Fire Marshal in the Bureau of Fire Prevention. One of his most memorable experiences was working as the Asst. Fire Marshal, supervising the planning and construction of San Jose City Hall. In the course of firefighting training and fire suppression activities, Don routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. He has been diagnosed with and is being treated for ulcerative colitis.

22. Bob King was in the fire service for 32 years with six years in the Redwood City Fire Department and 26 years in the City of San Jose Fire Department. He worked as a firefighter, fire engineer, fire captain, and battalion chief, spending many years working at Fire Station 16, serving the Tropicana neighborhood of east San Jose. Bob's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fire ground command, low-angle rope rescue operations, and fire administration. As a battalion chief, Bob served as the Assistant Fire Marshal in the Bureau of Fire Prevention and was responsible for oversight of the construction of 18 high-rise buildings in downtown San Jose and a major renovation of the San Jose Convention Center. He also delivered three babies during his career. In the course of firefighting training and fire suppression activities, Bob routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. He has been

diagnosed with and has been treated for prostate cancer, colon cancer and myeloproliferative neoplasms (blood cancer).

23. Keith Kjeldsen was in the fire service for over 30 years, serving in the City of San Mateo Fire Department for nine years, and the San Jose Fire Department for 21 years. He worked as a firefighter and spent many years at Fire Station 4, protecting the Burbank neighborhood of central San Jose. Keith's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. One of Keith's most memorable calls was a vehicle rollover at night involving a family of five; using the "jaws of life," the entire family was safely extricated from their mangled vehicle. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. Keith has been diagnosed with and treated for prostate cancer.

24. Edward Lake was in the fire service for 32 years, working at the City of Watsonville Fire Department, and San Jose Fire Department as a firefighter and fire engineer. In San Jose, Edward spent many years at Fire Station 22, protecting the Almaden Valley neighborhood of south San Jose. Edward's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. Edward's most memorable fire incident was a wind-driven brush fire while he was assigned to Brush Patrol 21; Edward and his team managed to stop the spread of the fire and saved numerous residential homes in the east San Jose foothills. He also delivered two babies during his career and received a letter of commendation for successfully assisting the delivery of a baby that was breach. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood

serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. Edward has been diagnosed with and treated for kidney cancer.

25. Dave Moore was in the fire service for 33 years, working as a firefighter, fire engineer and fire captain. He spent many years at Fire Station 4, protecting the Burbank neighborhood of central San Jose. Dave's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. Dave performed extensive work in the Bureau of Fire Prevention and received special recognition for his work on fire safety regulations relating to the emerging semiconductor industry in Silicon Valley. He received numerous letters of commendation and appreciation over the course of his career. One of Dave's most memorable experiences was the rescue of a family's beloved Doberman Pincher puppy. He delivered two babies during his career. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. Dave has been diagnosed with and treated for prostate cancer.

26. Bob Naughten was in the fire service for 29 years and worked in the South County Fire Authority and San Jose Fire Departments, serving as a firefighter, fire engineer and fire captain. Bob spent many years at Fire Station 5, protecting the Hyde Park neighborhood of north San Jose. Bob's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. One of the most memorable calls Bob made was for a mother pregnant with twins. He delivered the first baby and rode with the mother and newborn in the ambulance to the hospital, providing medical support for the mother and the second baby who was breach. The healthy mother and newborn twins later visited the fire station to express their gratitude. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and

used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. Bob has been diagnosed with and treated for neuroendocrine tumors.

27. Tom Scully was in the fire service for 33 years, serving San Jose for 27 years. He worked as a firefighter, fire engineer and fire captain and spent many years at Fire Station 3, serving the Spartan-Keyes neighborhood of central San Jose. Tom's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in hazardous materials, high-rise fires, and low-angle rope rescue operations. Tom was one of the founding fire officers who established the highly specialized Hazardous Incident Team. He served as department-wide safety officer, training officer, the Public Information Officer and the Wellness Program Officer, winning the C. Everett Koop award for program excellence. Tom delivered six babies, and one the babies was named after him and his partner who helped with the delivery. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. Tom has been diagnosed with and treated for prostate cancer.

28. John Skeen, Jr., followed in his father's footsteps and became a San Jose firefighter serving 28 years in the San Jose Fire Department. John worked as a firefighter, fire engineer, fire inspector and fire captain. He spent many years at Fire Station 16, serving the Tropicana neighborhood of east San Jose. John's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. One of John's most memorable rescues was a vehicle rollover on Interstate 101 in which a mother and daughter were trapped in a heavily damaged SUV. John and another firefighter crawled into the upside-down

vehicle, and provided a primary survey, secondary assessment, and comfort while they were being extracted. John delivered six babies during his career. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. John has been diagnosed with and treated for bladder cancer.

29. David Jimenez was in the fire service for over 28 years in the City of San Jose Fire Departments and worked as a firefighter, fire engineer and fire captain, spending many years at Fire Station 3, protecting the Washington neighborhood of downtown San Jose. David's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. David was awarded a Medal of Valor for the rescue of eight people – four of whom were unconscious – during a residential fire at night. He also delivered two babies during his career. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Blood serum testing conducted in December 2020 shows his PFAS levels are significantly elevated. David has been diagnosed with and treated for prostate cancer.

30. Steve O'Connor was in the fire service for over 27 years in the Fairview Fire Neighborhood and in the City of San Jose Fire Department. He worked as a firefighter and fire engineer, spending many years at Fire Station 30 protecting the Gardner neighborhood of central San Jose. Steve's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. One of Steve's most memorable moments was when he responded to a call for an elderly man who was in cardiopulmonary arrest. Steve provided emergency life support, saving the man's life. He also delivered three babies during his career. In

the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Steve has been diagnosed with and is being treated for prostate cancer.

31. Jim McClure was in the fire service for over 28 years in the City of San Jose Fire Departments and worked as a firefighter, fire engineer and fire captain, spending many years at Fire Station 2, serving the Alum Rock neighborhood of east San Jose. Jim's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. One of Jim's proudest memories was working on the organizing committee for the Firefighter Chili Cook-Off which raised over $2 million for the Santa Clara Valley Medical Burn Center. He also delivered four babies during his career. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Jim has been diagnosed with and treated for bladder cancer.

32. Wayne Chapp was in the fire service for over 27 years in the City of San Jose Fire Department and prior to that, served in the United States Navy. He worked as a firefighter and fire engineer, spending many years at Fire Station 14, serving the Westgate neighborhood of west San Jose. Wayne's firefighter training included incident command; fire suppression for structures, vehicles and grassland (including use and application of foam); search and rescue; ventilation operations; salvage and overhaul; and emergency medical training. He also received specialized training in high-rise fires, and low-angle rope rescue operations. In response to repeated calls from a local resident with multiple sclerosis, Wayne developed an extrication device to safely assist firefighters in moving patients who were incapacitated which was placed on all SJFD apparatus. He also delivered one baby during his career. In the course of firefighting training and fire suppression activities, he routinely wore turnouts and used Class B foam. He was unaware that the turnouts he wore and the Class B foam he used contained PFAS or PFAS-containing materials. Wayne has been

diagnosed with and is being treated for metastatic prostate cancer.

33. The Firefighter Plaintiffs, individually and collectively, allege that PFAS or PFAS-containing materials developed, manufactured, marketed distributed, released, sold, and/or used by Defendants in turnouts and Class B foam, as herein alleged, caused them to be exposed to PFAS and/or PFAS-containing materials. Such exposure was a substantial factor and proximate cause of the cancers, serious illnesses and bodily injuries suffered by the Firefighter Plaintiffs, as alleged herein.

B. The Spouse Plaintiffs

34. Pesha Perlsweig is the spouse of Firefighter Plaintiff Ken Allen. Pesha and Ken were lawfully married at all times relevant to this action, and now are husband and wife.

35. Susan Gluck is the spouse of Firefighter Plaintiff Chuck Gluck. Susan and Chuck were lawfully married at all times relevant to this action, and now are husband and wife.

36. Fran Jonasson is the spouse of Firefighter Plaintiff Don Jonasson. Fran and Don were lawfully married at all times relevant to this action, and now are husband and wife.

C. Defendants

37. Defendant 3M Company (a/k/a Minnesota Mining and Manufacturing Company) ("3M") is a Delaware corporation that does business throughout the United States, including conducting business in California. 3M has its principal place of business in St. Paul, Minnesota. 3M developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

38. Defendant E. I. du Pont de Nemours & Co. ("DuPont") is a Delaware corporation that does business throughout the United States, including conducting business in California. DuPont has its principal place of business in Wilmington, Delaware. DuPont developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

39. Defendant The Chemours Company, L.L.C. ("Chemours") is a Delaware corporation

that does business throughout the United States, including conducting business in California. Chemours has its principal place of business in Wilmington, Delaware. Chemours developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

40. Defendant Archroma U.S., Inc. ("Archroma") is a North Carolina corporation that does business throughout the United States, including conducting business in California. Archroma has its principal place of business in Charlotte, North Carolina. Archroma developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

41. Defendant Arkema, Inc. ("Arkema") is a Pennsylvania corporation that does business throughout the United States, including conducting business in California. Arkema has its principal place of business in King of Prussia, Pennsylvania. Arkema developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

42. Defendant AGC Chemicals Americas, Inc. ("AGC") is a Delaware corporation that does business throughout the United States, including conducting business in California. AGC has its principal place of business in Exton, Pennsylvania. AGC developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

43. Defendant Daikin America, Inc. ("Daikin America") is a Delaware corporation that does business throughout the United States, including conducting business in California. Daikin America has its principal place of business in Orangeburg, New York. Daikin America developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

44. Defendant Dynax Corporation ("Dynax") is a New York corporation that does business throughout the United States, including conducting business in California. Dynax has its

principal place of business in Pound Ridge, New York. Dynax developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

45. Defendant Johnson Controls, Inc. ("Johnson Controls") is a Delaware corporation that does business throughout the United States, including conducting business in California. Johnson Controls has its principal place of business in Milwaukee, Wisconsin. Johnson Controls is the parent of Defendants Tyco Fire Products, LP and Chemguard, Inc. Johnson Controls developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

46. Defendant Tyco Fire Products, L.P. ("Tyco") is a Delaware corporation that does business throughout the United States, including conducting business in California. Tyco has its principal place of business in Exeter, New Hampshire. Tyco developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

47. Defendant Chemguard, Inc. ("Chemguard") is a Wisconsin corporation that does business throughout the United States, including conducting business in California. Chemguard has its principal place of business in Marinette, Wisconsin. Chemguard developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

48. Defendant National Foam, Inc., ("National Foam") is a Pennsylvania corporation that does business throughout the United States, including conducting business in California. National Foam has its principal place of business in West Chester, Pennsylvania. National Foam developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

49. Defendant Carrier Global Corporation ("Carrier") is a Delaware corporation that does business throughout the United States, including conducting business in California. Carrier has its

principal place of business in Palm Beach Gardens, Florida. Carrier is the parent of Defendant Kidde-Fenwal, Inc. Carrier developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

50. Defendant Kidde-Fenwal, Inc. ("Kidde-Fenwal") is a Delaware corporation that does business throughout the United States, including conducting business in California. Kidde-Fenwal has its principal place of business in Ashland, Massachusetts. Kidde-Fenwal developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

51. Defendant Perimeter Solutions, LP, ("Perimeter Solutions") is a Delaware corporation that does business throughout the United States, including conducting business in California. Perimeter Solutions has a principal place of business in Rancho Cucamonga, California. Perimeter developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

52. Defendant Fire Service Plus, Inc. ("Fire Service Plus") is a Georgia corporation that does business throughout the United States, including conducting business in California. Fire Service Plus has its principal place of business in Simi Valley, California. Fire Service Plus developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

53. Defendant Buckeye Fire Equipment ("Buckeye") is a North Carolina corporation that does business throughout the United States, including conducting business in California. Buckeye has its principal place of business in Kings Mountain, North Carolina. Buckeye developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

54. Defendant Amerex Corporation, also known as Alabama Amerex Corporation, ("Amerex") is an Alabama corporation that does business throughout the United States, including conducting business in California. Amerex has its principal place of business in Trussville, Alabama. Amerex developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

55. Defendant Mine Safety Appliance Company, LLC ("MSA/Globe") is a Pennsylvania corporation that does business throughout the United States, including conducting business in California. MSA has its principal place of business in Cranberry Township, Pennsylvania. MSA acquired Globe Holding Company, LLC and its subsidiaries (collectively, "MSA/Globe") in 2017 and continues to do business under the Globe name. MSA developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

56. Defendant Globe Manufacturing Company, LLC ("Globe") is a New Hampshire corporation that does business throughout the United States, including conducting business in California. Globe has its principal place of business in Pittsfield, New Hampshire. Globe developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara. Defendant Mine Safety Appliance Company acquired Globe Holding Company, LLC and its subsidiaries (collectively, "MSA/Globe") in 2017 and continues to do business under the Globe name.

57. Defendant Lion Group, Inc., ("Lion") is an Ohio corporation that does business throughout the United States, including conducting business in California. Lion has its principal place of business in Dayton, Ohio. Lion developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

58. Defendant W. L. Gore & Associates, Inc., ("Gore") is a Delaware corporation that does business throughout the United States, including conducting business in California. Gore has its principal place of business in Newark, Delaware. Gore developed, manufactured, marketed,

distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

59. Defendant Ten Cate Protective Fabrics USA d/b/a Southern Mills, Inc. ("Tencate") is a Georgia corporation that does business throughout the United States, including conducting business in California. Tencate has its principal place of business in Senoia, Georgia. Tencate developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

60. Defendant PBI Performance Products, Inc., ("PBI") is a Delaware corporation that does business throughout the United States, including conducting business in California. PBI has its principal place of business in Charlotte, North Carolina. PBI developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

61. Defendant Honeywell Safety Products USA, Inc. ("Honeywell") is a Delaware corporation that does business throughout the United States, including conducting business in California. Honeywell has its principal place of business in Charlotte, North Carolina. Honeywell developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

62. Defendant StedFast USA, Inc. ("StedFast") is a Delaware corporation that does business throughout the United States, including conducting business in California. StedFast has its principal place of business in Piney Flats, Tennessee. StedFast developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

63. Defendant L.N. Curtis & Sons ("LN Curtis") is a California corporation that does business in California. LN Curtis has its principal place of business is Walnut Creek, California. LN Curtis developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California

and in the County of Santa Clara.

64. Defendant AllStar Fire Equipment ("AllStar") is a California corporation that does business in California. AllStar has its principal place of business in Arcadia, California. AllStar developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

65. Mallory Safety and Supply, LLC ("Mallory") is a California corporation that does business throughout the United States, including conducting business in California. Mallory has its principal place of business in Longview, Washington. Mallory developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

66. Municipal Emergency Services, Inc. ("MES") is a Nevada corporation that does business throughout the United States, including conducting business in California. MES has its principal place of business in Sandy Hook, Connecticut. MES developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams, including in California and in the County of Santa Clara.

67. Plaintiffs are currently unaware of the true names and capacities of Defendants named herein as DOES 1 through 25, inclusive, and Plaintiffs therefore sue those Defendants by fictitious names pursuant to California Code of Civil Procedure § 474. Plaintiffs will amend this complaint to state the true names and capacities of those Defendants sued herein as DOES when ascertained. Plaintiffs allege that each fictitiously named Defendant is in some manner responsible for the acts alleged herein and that they proximately caused the injuries to Plaintiffs as alleged herein.

68. Defendants DOES 1 through 25 are subsidiaries, partners, or other entities that were involved in the design, development, manufacture, testing, packaging, promotion, marketing, advertising, distribution, labeling, and/or sale of PFAS, PFAS materials, and products containing PFAS in the turnouts and/or Class B foams that Firefighter Plaintiffs used, as alleged herein.

69. Plaintiffs allege that each named Defendant is in some manner responsible for the acts alleged herein and that they proximately caused the injuries to Plaintiffs, as alleged herein.

70. Plaintiffs allege that each named Defendant derived substantial revenue from the PFAS, PFAS materials, and products containing PFAS in turnouts and/or Class B foams that Defendants designed, developed, manufactured, tested, packaged, promoted, marketed, advertised, distributed, labeled and/or sold within California, and that were used by Firefighter Plaintiffs herein within Santa Clara County, California.

71. Defendants expected or should have expected their acts to have consequences within the State of California, and derived substantial revenue from interstate commerce.

72. Defendants purposefully availed themselves of the privilege of conducting activities within the State of California, thus invoking the benefits and protections of its laws.

JURISDICTION AND VENUE

73. This Court has jurisdiction over this action under California Code of Civil Procedure § 410.10 and Article VI, § 10 of the California Constitution. The injuries and damages alleged herein are in an amount within the jurisdiction of this Court.

74. The Firefighter Plaintiffs' exposure and Plaintiffs' injuries, resulting from the acts of Defendants alleged herein, occurred in Santa Clara County, California. Venue is proper is this Court under California Code of Civil Procedure § 395(a).

SUBSTANTIVE ALLEGATIONS

A. The Firefighters Plaintiffs' Use of and Exposure to PFAS-Containing Products

75. The Firefighter Plaintiffs are 19 firefighters who have served the city of San Jose and city of Gilroy as firefighters and worked in various fire stations, engine, truck, and specialized companies in the County of Santa Clara and surrounding counties for decades.[4]

76. As first responders to fire, hazardous materials incidents, and other emergency and medical calls, the Firefighter Plaintiffs risk their lives on a daily basis. They not only save lives and homes, they provide emergency services and medical care, perform rescues, and offer support to people in traumatic circumstances. To prepare them for this enormously challenging work, the Firefighter Plaintiffs wear turnouts and receive extensive and ongoing training in fire suppression

[4] Three of these firefighters' spouses, referred to collectively herein as Spouse Plaintiffs, independently assert claims for loss of consortium as detailed more fully at ¶¶ 253-258, below.

(including the preparation and use of Class B foam), fire prevention, rescue, and emergency medical care action to protect and/or minimize the loss of life, property, and damage to the environment.

77. The City of San Jose Fire Department protects over one million residents and 200 square miles in the third largest city in California and the tenth largest city in the nation. The SJFD is also the emergency service provider for many high-hazard occupancies, including 7 major hospitals (including 3 trauma centers, and 7 emergency departments); the SAP Center (home to the NHL San Jose Sharks); San Jose State University (which has a student population of 31,906); three regional super malls; and over 516 high-rise structures.[5] In 2017-2018, the SJFD responded to 94,500 calls.

78. The City of Gilroy Fire Department ("GFD") serves a tight-knit community of 55,000 people and responds to over 5,500 calls a year with just 35 full-time firefighters.

79. For decades, Defendants, either individually or through their predecessors or subsidiaries, have manufactured, designed, sold, supplied, and distributed chemical feedstock and/or turnouts and Class B foam containing PFAS to firefighting training facilities and fire departments globally, including within the State of California and the city of San Jose and neighboring communities in California.

80. With over 5,000 individual chemicals, PFAS is a large and ever-growing category of human-made chemicals, consisting of a nearly indestructible chain of carbon and fluorine atoms that are widely used in products to, *inter alia*, resist and repel oil, heat and water, and have been found to have negative health effects. As detailed below, these toxic chemicals are present in firefighter turnouts and Class B foam.

(1) PFAS-Containing Turnout Gear

81. During firefighting training and when responding to fires and performing fire extinguishment, firefighters wear turnouts that are intended to provide a degree of thermal, chemical, and biological protection for a firefighter. Turnout gear components include a helmet, hood, jacket, pants, boots, and gloves. Each component is made of an outer layer, as well as several inner layers that include a moisture barrier and thermal liner which are meant to protect the firefighter from

[5] San Jose Fire Department Website, (last visited February 26, 2021), https://sjff.org/sjfd.

ambient heat.[6]

82. PFAS chemicals are used in turnout gear to impart heat, water, and stain resistance to the outer shell and moisture barrier of turnout gear.

83. A June 2020 study of turnout gear by researchers at the University of Notre Dame analyzed 30 new and used turnout jackets and pants originally marketed, distributed and sold in 2008, 2014, and 2017, by six turnout gear makers, including Defendants MSA/Globe, Lion and Honeywell and found high levels of PFAS in turnout gear worn, used, or handled by firefighters, including the Firefighter Plaintiffs.[7]

84. When exposed to heat, PFAS chemicals in the turnouts off-gas, break down, and degrade into highly mobile and toxic particles and dust,[8] exposing firefighters to PFAS chemicals, particles and dust, including through skin contact/absorption, ingestion (e.g., hand-to-mouth contact) and/or inhalation.[9] Further firefighter exposure to these highly mobile and toxic materials occurs through normal workplace activities, because particles or dust from their turnouts spread to fire vehicles and fire stations, as well as firefighters' cars and homes.[10]

85. Such workplace exposure to PFAS or PFAS-containing materials has been found to be toxic to humans. As far back as a July 31, 1980 internal memo, DuPont officials described measures that were needed to prevent workplace exposure to PFOA, which they knew could permeate all protective materials, and noted that PFOA's toxicity varied depending on the exposure pathway, acknowledging that ingestion was "slightly toxic," dermal contact was "slightly to moderately toxic"

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[6] *What Materials Go Into Making Turnout Gear?*, Globe MSA Safety Website, (last visited February 26, 2021), https://globe.msasafety.com/selecting-your-gear/materials.

[7] Graham Peaslee et al., *Another Pathway for Firefighter Exposure to Per- and Polyfluoroalkyl Substances: Firefighter Textiles*, Environmental Science & Technology Letters 2020, 7, 8, 594-599 (Ecotoxicology and Public Health) (June 23, 2020) (hereinafter, "the Notre Dame Turnout Study").

[8] A.S. Young et al., *Per- and Polyfluoroalkyl Substances (PFAS) and Total Fluorine in Fire Station Dust,* J. Expo. Sci. Environ. Epidemiology (2021), https://doi.org/10.1038/s41370-021-00288-7.

[9] *Id*.

[10] *Id*.

and inhalation was "highly toxic."[11] The memo concluded "continued exposure is not tolerable."[12]

86. As alleged herein, the Firefighter Plaintiffs wear and/or wore turnouts in the ordinary course of performing their duties, as the turnouts were intended to be used and in a foreseeable manner, which exposed them to significant levels of PFAS.

87. The Firefighter Plaintiffs did not know, and in the exercise of reasonable diligence could not have known, that the turnouts they wore or used in the course of performing their duties contained PFAS or PFAS-containing materials, and similarly did not know and could not have known that they routinely suffered exposure to PFAS or PFAS-containing materials in the turnouts they wore or used in performing their duties. The turnout gear worn or used by the Firefighter Plaintiffs did not and does not contain labeling information saying that the gear contains PFAS, and similarly did not and does not warn the Firefighter Plaintiffs of the health risks associated with exposure to PFAS.

88. Like many fire departments across the country, the Firefighter Plaintiffs only had one set of turnouts to wear until the mid-2000s, when some were issued a second set of turnouts. For years and, indeed, throughout the majority of their careers, the Firefighter Plaintiffs took their turnouts home and cleaned them in their home washing machines – unknowingly exposing their spouses, children and home to the highly mobile and pernicious PFAS chemicals contained in and on Firefighter Plaintiffs' turnout gear.

(2) PFAS-Containing Class B Foam

89. Class B foam is one of the primary tools used by firefighters for fire suppression and is particularly effective for extinguishing fires involving oil and/or chemicals common at transportation accidents, aircraft accidents, chemical spills, and Hazmat incidents. Class B foam is also used in structural or other types of non-chemical fires when water cannot penetrate deeply enough to ensure that unseen fire is extinguished. The most common Class B foam is aqueous film-forming foam ("AFFF"). AFFF and other Class B foams contain PFAS.

90. To use Class B foam, a Class B foam concentrate must first be mixed with water.

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[11] Robert Bilott, *Exposure* (2019), pg. 174.

[12] *Id*. at pg. 175.

91. Class B foam concentrate is typically sold in five-gallon containers that a firefighter or fire engineer[13] is responsible for storing on the engine and/or pouring into the foam bladder of engine. To mix the foam concentrate and water in an engine that is not pre-plumbed, an eductor must be placed in the foam concentrate to draw up the concentrate and mix it with water to create a thick, white, foamy substance. The fire engineer is responsible for this process of preparing the foam and for cleaning the equipment (bladders, hoses, nozzles, etc.) after use.

92. The process of mixing Class B foam, plumbing and preparing it, and cleaning the equipment after foam use causes exposure to PFAS through skin contact, inhalation, or ingestion (e.g., hand-to-mouth contact). The Class B foam containers used by the Firefighter Plaintiffs and their fire departments to mix and prepare the Class B foam for use did not say that the foam contains PFAS, and did not warn the Firefighter Plaintiffs of the serious health risks associated with exposure to PFAS.

93. Class B foam is used in fire extinguishment in a manner typical of routine methods of fire extinguishment—by being sprayed through a fire hose.

94. The techniques used for "laying a blanket" of Class B foam in fire extinguishment include: banking the foam off a wall or vertical surface to agitate the foam before it covers the fire; or applying it to the ground surface where the fire is burning. In structure fires, it can also be necessary to spray the ceilings, walls and floors. Reapplication of foam is often necessary because the foam blanket will break down over time.

95. These techniques are used routinely in firefighting training as well as in real-world fire extinguishment, and result in firefighters being sprayed or entirely soaked with Class B foam, walking in and through Class B foam (which can reach thigh- or even waist-high), or kneeling in Class B foam during use – all as depicted in the exemplar photographs below. As a result, the techniques cause exposure to PFAS through skin contact, inhalation, or ingestion (e.g., hand-to-mouth contact).

[13] In the SJFD, fire engineers are typically responsible for firefighting apparatus, such as fire engines, that transport firefighters, carry equipment and pump water at fire scenes.

96. As alleged herein, the Firefighter Plaintiffs use or used Class B foam in the ordinary course of performing their duties as it was intended to be used and in a foreseeable manner which exposed them to significant levels of PFAS.

97. The Firefighter Plaintiffs did not know, and in the exercise of reasonable diligence, could not have known that the Class B foam they used in the course of performing their duties contained PFAS or PFAS-containing materials, and similarly did not know and could not have known that they routinely suffered exposure to PFAS or PFAS-containing materials in the Class B foam they used in performing their duties.

98. These exposures to PFAS or PFAS-containing materials resulted in serious and life-threatening diseases to the Firefighter Plaintiffs, and continue to pose a significant health threat to them given the bioaccumulation, pervasiveness and persistence of PFAS.

B. The Chemical Structure of PFAS Makes Them Harmful to Human Health

99. PFAS are known as "forever chemicals" because they are immune to degradation, bio-accumulate in individual organisms and humans, and increase in concentration up the food chain.[14] Indeed, scientists are unable to estimate an environmental half-life (i.e. the time it takes for 50% of the chemical to disappear) for PFAS.[15] Additionally, some PFAS chemicals (known as "precursors") degrade into different long-chain PFAS chemicals.[16]

100. PFAS are nearly indestructible and are highly transportable.[17] PFAS exposure to humans can occur through inhalation, ingestion, or dermal contact.[18]

101. PFAS chemicals include "older" long-chain PFAS like PFOA, PFOS, and PFNA that have seven or more carbon atoms, and "newer" short-chain PFAS, like PFBA, PFBS, PFHxA, and PFHxS. The PFAS chemical industry has repeatedly asserted that short-chain PFAS are safer and bio-degrade more easily than long-chain PFAS. However, short-chain PFAS are molecularly similar

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[14] *Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)*, National Institute of Environmental Health Sciences (last visited February 26, 2021), https://www.niehs.nih.gov/health/topics/agents/pfc/index.cfm.

[15] *Id*.

[16] *Id*. at fn. 8; Monica Amarelo, *Study: Almost All Fluorine Detected in Fire Stations' Dust Is From Unknown "Forever Chemicals,"* Environmental Working Group (February 5, 2021), https://www.ewg.org/release/study-almost-all-fire-stations-dust-unknown-forever-chemicals.

[17] *Toxicological Profile for Perfluoroalkyls*, *see* Relevance to Public Health, Agency for Toxic Substances & Disease Registry, (last visited February 26, 2021), https://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=1117&tid=237.

[18] *Id*. at Potential for Human Exposure, pg. 535.

to long-chain PFAS, and recent scientific research conducted in 2020 shows that short-chain PFAS are in fact extremely persistent, highly mobile and transportable, almost impossible to remove from water, bio-accumulate in humans and the environment, and show similar toxicity as long-chain PFAS.[19] For example, short-chain PFBA (with only four carbon molecules) which was created by defendant 3M and reportedly has a shorter half-life than other PFAS, recently has been found to accumulate in the lungs and, in turn, increase the severity of COVID-19 in patients with elevated levels of PFBA,[20] among other health concerns. Short-chain PFAS also have lower technical performance and may therefore be used at higher quantities cancelling out any supposed benefits of lower bioaccumulation potential.[21]

102. To date, there is no safe, acceptable or "normal" level of PFAS in the human body. Further, the fact that PFOA, PFOS, PFHxS, PFHpA, and PFNA are often found together presents a substantial risk to human health. Defendants' assertions that their products are safe because they do not contain PFOA or PFOS, or because they contain short-chain PFAS is just another example of their efforts to deflect from the reality that there are thousands of PFAS – including precursor PFAS which degrade into PFOA and PFOS.[22]

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[19] Cheryl Hogue, *Short-chain and long-chain PFAS show similar toxicity, US National Toxicology Program says*, Chemical and Engineering News, (August 24, 2019), https://cen.acs.org/environment/persistent-pollutants/Short-chain-long-chain-PFAS/97/i33; David Andrews, *FDA Studies: 'Short-Chain' PFAS Chemicals More Toxic Than Previously Thought*, Environmental Working Group (March 9, 2020), https://tinyurl.com/y3lbq7by; Stephan Brendel et al., *Short-chain Perfluoroalkyl Acids: Environmental Concerns and A Regulatory Strategy Under REACH*, Environmental Sciences Europe, Vol. 30, 1 (2018), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5834591/; Tom Neltner, *The Elephant in the Room: Potential Biopersistence of Short-Chain PFAS*, Environmental Defense Fund, (February 20, 2019), http://blogs.edf.org/health/2019/02/20/potential-biopersistence-short-chain-pfas/.

[20] *Exposure to Toxic Chemical Linked with Worse COVID-19 Outcomes*, The Harvard Gazette (Jan. 6, 2021), https://www.hsph.harvard.edu/news/hsph-in-the-news/pfas-exposure-linked-with-worse-covid-19-outcomes/.

[21] Martin Scheringer et al., *Helsingør Statement on Poly- and Perfluorinated Alkyl Substances* (PFASs), Chemosphere (June 14, 2014), https://www.sciencedirect.com/science/article/pii/S004565351400678X.

[22] Technical Fact Sheet - Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), United States Environmental Protection Agency, (Nov. 2017), https://www.epa.gov/sites/production/files/2017-12/documents/ffrrofactsheet_contaminants_pfos_pfoa_11-20-17_508_0.pdf.

103. PFAS exposure affects nearly every system in the body.[23] It has been associated with multiple and serious adverse health effects in humans including, but not limited to, cancer, tumors, liver damage, immune system and endocrine disorders, thyroid disease, ulcerative colitis, birth defects, decreased fertility, pregnancy-induced hypertension, accelerated changes in gene expression, and increases in oxidative stress which can contribute to DNA changes, tumor promotion, and other health conditions.[24] It has also been found to concentrate in human blood, bones and organs, and to reduce the effectiveness of certain vaccines, a significant concern in light of COVID-19.[25]

C. Defendants Knowingly Manufactured, Developed, Marketed, Distributed, Supplied and/or Sold Toxic PFAS and/or Products Containing PFAS

104. Defendants have each marketed, developed, distributed, sold, promoted, manufactured, released, or otherwise used PFAS chemicals in products, including in PFAS-containing turnout gear and Class B foam, throughout the United States and in California.

105. PFAS were first developed in the 1930s and 1940s. Soon after, 3M began manufacturing a PFAS material called perfluorooctanoic acid ("PFOA"), selling it to other companies, including DuPont.

106. By the 1950s, PFAS were widely used in large-scale manufacturing. Prior to this, PFAS had never been detected in nor were present in human blood or bodies.

107. In the 1960s, Class B foam containing PFAS entered the global market and became the primary firefighting foam all over the world with 3M as one of the largest manufacturers.

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[23] Kelly Lenox, *PFAS Senate Hearing, Birnbaum's Expert Scientific Testimony*, Environmental Factor, National Institute of Environmental Health Sciences (May 2019), https://factor.niehs.nih.gov/2019/5/feature/1-feature-pfas/index.htm.

[24] A. Koskela et al., *Perfluoroalkyl substances in human bone: concentrations in bones and effects on bone cell differentiation*, Scientific Reports, (July 28, 2017), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5533791/pdf/41598_2017_Article_7359.pdf; *National Toxicology Program Technical Report on the Toxicology and Carcinogenesis Studies of Perfluorooctanoic Acid Administered in Feed to Sprague Dawley (Hsd: Sprague Dawley SD) Rats*, National Toxicology Program, (May 2020), https://ntp.niehs.nih.gov/ntp/htdocs/lt_rpts/tr598_508.pdf.

[25] *Id.* (Koskela study); Tasha Stolber, *PFAS Chemicals Harm the Immune System, Decrease Response to Vaccines, New EWG Review Finds*, Environmental Working Group (November 12, 2020), https://www.ewg.org/news-and-analysis/2020/11/pfas-chemicals-harm-immune-system-decrease-response-vaccines-new-ewg.

108. In the 1970s, Defendants National Foam and Tyco began to manufacture, market and sell Class B foam containing PFAS, followed by Defendants Chemguard and Dynax in the 1990s, and Defendant Buckeye in the 2000s.

109. Founded in 1918, Defendant MSA/Globe began manufacturing, marketing and selling turnout gear with DuPont's NOMEX® PFAS-containing flame resistant fabric in 1966. MSA/Globe (under the Globe name) continues to manufacture, market and sell turnout gear using PFAS-containing fabrics supplied by its partners, DuPont, Gore, Tencate, and PBI.[26]

110. Defendant Lion began to manufacture, market and sell turnout gear in 1970. Since its founding, and continuing through to the present, Lion makes, markets and sells turnout gear using PFAS-containing fabrics, including Teflon® F-PPE-treated thermal lining material supplied by Defendants DuPont's NOMEX® PFAS-containing flame/water/oil-resistant fabric, and moisture barrier fabrics supplied by Defendant Gore.[27]

111. Defendant Honeywell acquired Norcross Safety Products LLC in 2008, entering the protective gear industry and becoming one of the leading manufacturers of turnouts. Honeywell makes, markets and sells turnout gear using PFAS-containing fabrics, supplied by Defendants DuPont, Gore, PBI and StedFast.

D. Defendants Know Exposure to PFAS Causes Serious Health Impacts

112. Defendants, including specifically 3M and DuPont, have long known about the serious and significant impacts to health caused by exposure to PFAS, having conducted study after study on the exposure and health effects of PFAS on animals, and in some cases, even on their own employees. The findings of these studies were discussed within the companies internally, yet were never made public or shared with any regulatory agencies. Among the findings:

a. A 1950 3M study showed that PFAS could build up in the blood of mice and that PFAS could bind to proteins in human blood suggesting that PFAS would

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[26] *See Globe History*, Globe MSA Safety Website, (last visited February 26, 2021), https://globe.msasafety.com/history; *Turnout Gear Materials*, Globe MSA Safety Website, (last visited February 26, 2021), https://globe.msasafety.com/materials.

[27] *See Our History*, Lion Website (last visited February 26, 2021), http://www.lionprotects.com/lion-history; *Firefighter Turnouts*, Lion Website (last visited February 26, 2021), https://www.lionprotects.com/firefighter-turnout-gear#.

not only remain, but also persist and accumulate in the body of the exposed individuals with each additional exposure.[28]

b. In 1961, a DuPont toxicologist warned that PFAS chemicals enlarge rat and rabbit livers.[29] A year later, these results were replicated in studies with dogs.[30]

c. In 1963, 3M's technical handbook classified PFAS as toxic and advised that "due care should be exercised in handling these materials."[31]

d. In 1970, a company that purchased 3M's firefighting foam had to abandon a test of the product because all the fish died.[32]

e. In the 1970s, DuPont discovered that there were high concentrations of PFOA in the blood samples of factory workers at DuPont's Washington Works site.[33]

f. By the end of the 1970s, studies performed by, at least 3M, indicated that PFAS materials were resistant to environmental degradation and would persist in the environment.[34]

g. In 1981, 3M, which still supplied PFOA to DuPont and other corporations, found that ingestion of PFOA caused birth defects in rats. 3M reported this information to DuPont. DuPont then tested the children of pregnant employees in their Teflon division and found that of seven births, two children had eye defects. Defendants reassigned the female employees, but did not inform the EPA or make this information public.[35]

h. In 1988, a company that purchased PFAS firefighting foam complained to 3M because the product was not biodegradable as 3M represented.[36]

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[28] Timeline - *For 50 Years, Polluters Knew PFAS Chemicals Were Dangerous But Hid Risks From Public*, Environmental Working Group, (2019), https://static.ewg.org/reports/2019/pfa-timeline/3M-DuPont-Timeline_sm.pdf; *see also*, https://www.ewg.org/pfastimeline/.

[29] *Id*.

[30] Nathaniel Rich, *The Lawyer Who Became DuPont's Worst Nightmare*, New York Times (June 6, 2016),https://www.nytimes.com/2016/01/10/magazine/the-lawyer-who-became-duponts-worst-nightmare.html.

[31] *Id*. at fn. 28.

[32] *Id*.

[33] *Id*.

[34] *PFCS: Global Contaminants: PFCs Last Forever***,** Environmental Working Group, (April 3, 2003), https://www.ewg.org/research/pfcs-global-contaminants/pfcs-last-forever.

[35] *Id*. at fn. 28.

[36] *The Devil They Knew: PFAS Contamination and the Need for Corporate Accountability, Part II*, Transcript of Hearing Before the Subcommittee on Environment of the Committee on Oversight and Reform, House of Representatives (September 19, 2019),

(footnote continued)

Subsequently, a 3M employee wrote an internal memo that "3M should stop perpetrating the myth that these fluorochemical surfactants are biodegradable, but the company continued to sell them."[37]

i. By at least the end of the 1980s, research performed by Defendants, including specifically, Defendants 3M and DuPont, manufacturing and/or using PFAS materials indicated that at least one such PFAS material, PFOA, caused testicular tumors in a chronic cancer study in rats, resulting in at least Defendant DuPont classifying such PFAS material internally as a confirmed animal carcinogen and possible human carcinogen.[38]

j. In the 1990s, Defendant DuPont knew that PFOA caused cancerous testicular, pancreatic and liver tumors in lab animals. One study also suggested that PFOA exposure could cause possible DNA damage.[39] Another study of workers found a link between PFOA exposure and prostate cancer.[40]

k. In response to the alarming and detrimental health impact, DuPont began to develop an alternative to PFOA and in 1993, an internal memo announced that "for the first time, we have a viable candidate" that appeared to be less toxic and showed less bioaccumulation.[41] DuPont decided against using this potentially safer alternative, however, because products manufactured with PFOA were worth $1 billion in annual profit.[42]

l. On June 30, 2000, 3M and DuPont met to share 3M's "pertinent data on PFOA". 3M informed DuPont that the half-life of PFOA was much longer than animal studies showed.[43]

113. Additionally, approximately fifty years of studies by Defendants, including by 3M and DuPont, on human exposure to PFAS found unacceptable levels of toxicity and bio-accumulation, as well as a link to increased incidence of liver damage, various cancers, and birth defects in humans exposed to PFAS.[44] These studies also revealed that, once in the body, PFAS has a very long half-

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https://docs.house.gov/meetings/GO/GO28/20190910/109902/HHRG-116-GO28-Transcript-20190910.pdf.

[37] *Id.*

[38] *Id.* at fn. 28.

[39] *Id.*

[40] *Id.*

[41] *Id.*

[42] *Id.*

[43] Internal DuPont Memorandum, DuPont Haskell Laboratory Visit (June 30, 2000), https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1721.pdf.

[44] *Id.* at fn. 28.

life and that it takes years before even one-half of the chemicals begins to be eliminated from the body—assuming, of course, the body experiences no additional PFAS chemical exposure.[45]

114. In the face of these findings, and despite passage of the Toxic Substances Control Act in 1976, which requires companies that manufacture, process or distribute chemicals to immediately report to the Environmental Protection Agency ("EPA") information that "reasonably supports the conclusion" that a chemical presents a substantial risk to health or the environment, Defendants did not inform the EPA, Plaintiffs, or the public about the health impacts resulting from exposure to PFAS.[46] Indeed, in at least some instances, Defendants' own attorneys advised the companies to conceal their damaging findings on PFAS, which they did for decades.[47]

115. In 2000, 3M announced that it would cease manufacturing a specific PFAS chemical, PFOS, as well as Class B foam, on the same day the EPA announced that PFOA and PFOS, two chemicals in the PFAS family, had a "strong tendency to accumulate in human and animal tissues and could potentially pose a risk to human health and the environment over the long term."[48]

116. However, 3M did not recall PFOS, its chemical feedstock, or any Class B foam that it had previously manufactured, sold, or distributed, or that was then stored at firehouses and being used by firefighters around the country. And, no other Defendant stopped manufacturing PFAS chemicals or products containing PFAS. Rather, Defendants continued to manufacture, develop, market, promote, distribute and sell PFAS chemicals and PFAS-containing products, including specifically PFAS-containing turnouts, and Class B foams and did so without any warning to firefighters or to the public concerning the fact that these turnouts and foams contained PFAS, or that they posed a serious health risk to human health. Defendants instead continued to claim their products were safe.

117. By the 2000s, Defendants' own research of its employees revealed multiple adverse health effects among workers who had been exposed to PFAS, including increased cancer incidence,

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[45] *Id*.
[46] *Id*.
[47] *Id*. at fn. 36.
[48] *EPA and 3M Announce Phase Out of PFOS*, Press Release, United States Environmental Protection Agency (May 16, 2000), https://archive.epa.gov/epapages/newsroom_archive/newsreleases/33aa946e6cb11f35852568e1005246b4.html.

hormone changes, lipid changes, and thyroid and liver impacts.[49]

118. In 2001, a class action lawsuit was filed in West Virginia against DuPont on behalf of people whose water had been contaminated by the nearby DuPont chemical plant where PFAS chemicals were manufactured.

119. Defendants continued to manufacture, market, promote, distribute, and sell PFAS and PFAS-containing products, including turnouts and Class B foam, and continued to publicly claim that these products were safe. Defendants affirmatively suppressed independent research on PFAS, and instead commissioned research and white papers to support their claims that PFAS and PFAS-containing products were safe to use, engaging consultants to further this strategy and ensure that they would continue to profit from these toxic chemicals and products.

120. As one consultant wrote in pitching its services to DuPont, it was critical that the PFAS industry develop an aggressive strategy to "[discourage] governmental agencies, the plaintiffs' bar and misguided environmental groups" and "[implement] a strategy to limit the effect of litigation and regulation on the revenue stream generated by PFOA." The strategy was further described by consultant as follows:

> DUPONT MUST SHAPE THE DEBATE AT ALL LEVELS. . . .The outcome of this process will result in the preparation of a multifaceted plan to take control of the ongoing risk assessment by the EPA, looming regulatory challenges, likely litigation, and almost certain medical monitoring hurdles. The primary focus of this endeavor is to strive to create the climate and conditions that will obviate, or at the very least, minimize ongoing litigation and contemplated regulation relating to PFOA. ***This would include facilitating the publication of papers and articles dispelling the alleged nexus between PFOA and teratogenicity as well as other claimed harm***. We would also lay the foundation for creating Daubert precedent to discourage additional lawsuits.[50]

121. Class B foam manufacturers and distributors adopted a similarly aggressive industry campaign to evade government oversight or public attention of the risks posed by their products. At a March 2001 meeting of the National Fire Protection Association's Technical Meeting on Foam,

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[49] *Id*. at fn. 28.

[50] Letter from P. Terrence Gaffney, Esq of The Weinberg Group to Jane Brooks, Vice President, Special Initiatives, DuPont de Nemours & Company, regarding PFOA (April 29, 2003).

which included Defendant Class B foam manufacturers Tyco, Chemguard and National Foam, a 3M representative informed attendees that 3M had discontinued its Class B foam business, citing concerns about the "proven pervasiveness, persistence and toxicity" of PFOS.[51] Attendees also were informed of evidence that telomer-based fluorosurfactants (used by every Class B foam manufacture except 3M) degrade to PFOA and, worse, exhibit an even greater degree of pervasiveness and toxicity than PFOA.

122. On or about the same time, certain Defendants, including at least Tyco, DuPont, Dynax, Kidde, and Buckeye, founded and/or became members of the Fire Fighting Foam Coalition ("FFFC") – a non-profit organization of manufacturers, distributors and suppliers of Class B foam (specifically AFFF). The FFFC's self-described role was to be "the environmental voice for users and manufacturers of AFFF"[52] – one designed to ignore the health impacts of exposure to PFAS-containing Class B foams such as AFFF:

> Not too long ago, 3M had environmental concerns about a chemical in their product and decided to withdraw from the AFFF market. Even though no other manufacturers used the questionable chemical, the withdrawal of 3M from AFFF production raised a red flag. As a direct result, a lot of half-truths and misinformation published by some well-meaning, but misinformed, groups began to surface. One organization went so far as to label our products as "hazardous waste" and as posing an "occupational health or environmental hazard." At the same time, the Federal government was focusing its attention on the industry and needed to identify an industry representative that could provide fact-based information and serve as a focal point for dialogue. We decided, therefore, to form the FFFC in order to educate, inform and help persuade regulatory and legislative decision-makers that firefighting foams are a value-added component to any firefighting capability.[53]

123. Defendants also pivoted with a new industry strategy. Defendants continued to produce Class B foams containing PFAS and continued to publicly represent that PFAS and/or products containing PFAS were safe, while developing newer, "short-chain" PFAS alternatives.

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[51] NFPA-11 Technical Committee Meeting Notes (National Fire Protection Association for Standards on Low-, Medium- and High-Expansion Foam) (March 14-15, 2001), https://assets.documentcloud.org/documents/4178280/NFPA-Schedule.pdf.

[52] Fire Fighting Foam Council Website (last visited February 26, 2021), https://www.fffc.org/.

[53] *Id*. at https://web.archive.org/web/20020811142253/http:/www.fffc.org/about.html (captured August 11, 2002).

124. In 2005, the EPA fined DuPont $16.5 million for failing to submit decades of toxicity studies of PFOA (one PFAS chemical manufactured by the company).[54] In the face of and undeterred by the EPA's action, Defendant turnout manufacturers, such as MSA (Globe) and Lion, partnered with DuPont and with Defendant Gore to develop, manufacture, market, distribute and turnouts made with DuPont's and/or Gore's PFAS-based textile coatings (e.g., Nomex® and Gore® Protective Fabrics).[55]

125. In 2006, the EPA "invited" eight PFOA manufacturers, including Defendants DuPont, 3M, Arkema, and Daikin to join in a "Global Stewardship Program" and phase out production of PFOA by 2015.[56]

126. By this time, Defendants had begun to aggressively manufacture, market and/or distribute short-chain PFAS, such as Gen X, claiming that these alternative PFAS chemicals did not pose significant health risks to humans or the environment. But, these claims, too, were false. Defendants knew that certain of these short-chain PFAS chemicals had been found in human blood, and that at least one of them produces the same types of cancerous tumors (testicular, liver, and pancreatic) in rats as had been found in long-chain PFAS studies.[57]

127. In 2011, a C8 Science Panel convened as part of a settlement in the West Virginia DuPont water contamination case described in paragraph 117, above, began releasing its findings. The Panel had analyzed the blood serum of nearly 70,000 residents living in the water contamination area for two long-chain PFAS (PFOA and PFOS), and found significant negative human health

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[54] Michael Janofsky, *DuPont to Pay $16.5 Million for Unreported Risks*, New York Times (December 5, 2005), https://www.nytimes.com/2005/12/15/politics/dupont-to-pay-165-million-for-unreported-risks.html.

[55] *DuPont and LION Collaborate to Better Protect Firefighters and First Responders*, Press Release, DuPont and LION (January 30, 2013), https://www.prweb.com/releases/dupont_protection_tech/lion_turnout_gear/prweb10362363.htm; *Our Partners*, Globe Website (last visited February 26, 2021), https://globe.msasafety.com/our-partners; and *Firefighter & Emergency Response Protection,* DuPont Website (last visited February 26, 2021), https://www.dupont.com/personal-protection/firefighter-protection.html.

[56] *PFOA Stewardship Program*, United States Environmental Protection Agency (last visited February 26, 2021), https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-management-and-polyfluoroalkyl-substances-pfas#tab-3.

[57] Sharon Lerner, *New Teflon Toxin Causes Cancer in Lab Animals*, The Intercept (March 3, 2016), https://theintercept.com/2016/03/03/new-teflon-toxin-causes-cancer-in-lab-animals/.

effects (including, kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, high cholesterol and preeclampsia) associated with exposure to these PFAS chemicals in the area groundwater.

128. In 2013, DuPont entered an agreement with the EPA and ceased production and use of PFOA – just one of thousands of PFAS chemicals the company makes, promotes and sells. Defendants, however, continued manufacturing short-chain PFAS materials, chemical feedstock, and products—all the while peddling them as safer, and as more easily bio-degraded than long-chain PFAS, despite evidence to the contrary.[58]

129. In 2015, DuPont spun-off its PFAS chemicals business, as well two-thirds of its environmental liabilities and 90% of its active litigation, to Defendant Chemours. As part of the transaction, DuPont required Chemours to indemnify the "new" DuPont for all assigned environmental liabilities should a regulatory agency or plaintiff seek to hold the "new" DuPont accountable. As Chemours President Paul Kirsch testified before Congress: "DuPont designed the separation of Chemours to create a company where it could dump its liabilities to protect itself from environmental cleanup and related responsibilities."[59]

130. In June 2018, the Agency for Toxic Substances and Disease Registry (ASTDR), a division of the Centers for Disease Control and Prevention at the US Department of Health and Human Services released an 852-page draft toxicology report analyzing scientific data about the most common PFAS chemical variants, finding that PFAS "are potentially more hazardous than previously known, are particularly concerning because of these compounds' persistence in the environment and widespread prevalence—PFAS are extremely slow to biodegrade."[60]

131. In September 2019, DuPont chief operations and engineering officer Daryl Roberts testified before Congress that the "new DuPont" (to be distinguished from the "old DuPont" which manufactured and sold PFAS for decades before being spun-off to Chemours) no longer uses or

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[58] *Id*. at fn. 19, *see* Tom Neltner, http://blogs.edf.org/health/2019/02/20/potential-biopersistence-short-chain-pfas/.

[59] *Id*. at fn. 36.

[60] *A Toxic Threat: Government Must Act Now on PFAS Contamination at Military Bases*, Center for Science and Democracy (September 2018), https://www.ucsusa.org/sites/default/files/attach/2018/09/a-toxic-threat-pfs-military-fact-sheet-ucs-2018.pdf.

manufactures PFAS and is no longer responsible for obligations and harms resulting from over 65 years of producing PFAS.[61] Roberts further testified that he knew nothing about "old DuPont's" efforts to suppress research on PFAS' toxicity as testified to by one of DuPont's former scientists only a few days earlier.[62] Finally, he stated that any liabilities from "old DuPont's" PFAS operations were now Chemours' problem because DuPont is essentially a completely new company with no past – only a bright future of doing good in the world.[63]

E. Defendants Failed to Warn Plaintiffs of the Dangers of Exposure to PFAS and Falsely Represented That Their PFAS Products Were Safe

132. As alleged above, Defendants knew that PFAS are persistent, toxic, and bio-accumulating with a very long half-life. They knew that exposure to PFAS can cause serious and life-threatening diseases, including cancer.

133. Yet, Defendants ***did not warn*** Plaintiffs that PFAS and Defendants' PFAS-containing products, including turnouts and Class B foams used by the Firefighter Plaintiffs, contained PFAS, or that exposure to PFAS in the normal and intended use of such products, causes serious bodily harm and illnesses, including cancer.

134. Instead, Defendants falsely represented—and continue to falsely represent— that PFAS and PFAS-containing products, including turnouts and Class B foams, are safe and not harmful to humans or the environment.

135. Such assertions fly in the face of science and a global movement toward eliminating this class of chemicals from consumer products. In just this past year, for example, Congress passed legislation to address PFAS in turnouts and foam,[64] and numerous states have severely restricted and/or banned PFAS-containing firefighting foam with California and Colorado also banning PFAS-

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[61] *Id*. at fn. 36.
[62] *Id*.
[63] *Id*.
[64] Ryan Woodward, *Congress Passes Legislation to Address PFAS Chemicals Impacting Firefighters,* Fire Rescue 1, (December 17, 2020), https://www.firerescue1.com/legislation-funding/articles/congress-passes-legislation-to-address-pfas-chemicals-impacting-firefighters-Sp8MFif5dAbD4ZrI/.

containing turnouts as of 2022.[65] The U.S. Food and Drug Administration similarly has called for phasing out of short-chain PFAS that contain 6:2 fluorotelomer alcohol (6:2 FTOH).[66] And private companies like Home Depot, Lowes and Staples recently have begun to discontinue selling products containing any PFAS, as have several outdoor, durable clothing companies (e.g. Columbia and Marmot), clothing retailers (e.g. H&M, Levi Strauss & Co), shoe companies (e.g. Adidas and New Balance), car seat manufacturers (e.g. Britax and Graco), furniture companies (e.g. IKEA), personal care companies (e.g. Johnson & Johnson and Oral-B), and textile manufacturing companies.[67]

(1) Defendants Provide No Safety Warnings on Product Labels

136. Plaintiffs allege that the packaging on the PFAS-containing Class B foam containers used for mixing Class B foam with water, pumping the mixture into engines, and for spraying and laying foam blankets for fire suppression or fire suppression training, contained no warning that the Class B foam contained PFAS. Nor did it inform persons handling or using the foam as it was intended to be handled that such use can result in exposure to PFAS and serious bodily harm.

137. Below are pictures of some of the Class B foam containers manufactured, marketed, distributed, or sold by Defendants in California, and used by the Firefighter Plaintiffs in training or

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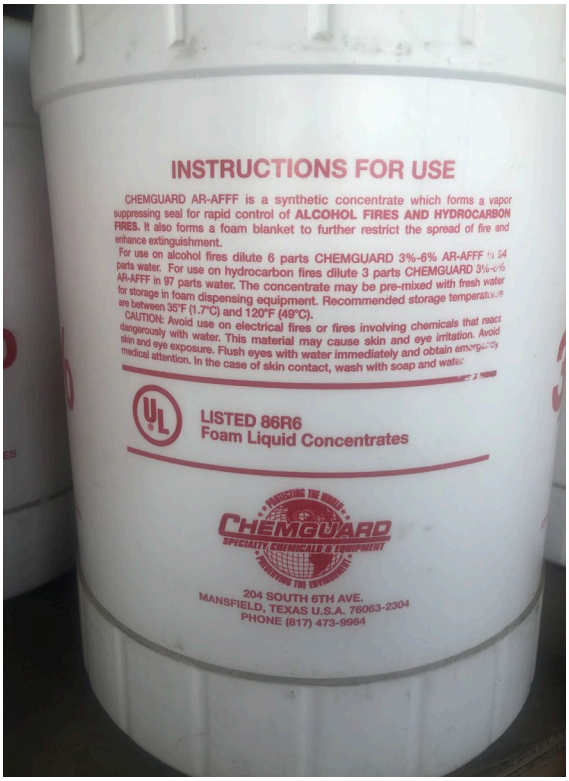
[65] Andrew Wallender, *Toxic Firefighting Foam With PFAS Scrutinized by Multiple States*, Bloomberg Law (June 18, 2020), https://news.bloomberglaw.com/pfas-project/toxic-firefighting-foam-with-pfas-scrutinized-by-multiple-states; Cheryl Hogue, *California Bans PFAS Firefighting Foams*, Chemical & Engineering News (October 1, 2020), https://cen.acs.org/environment/persistent-pollutants/California-bans-PFAS-firefighting-foams/98/i38#:~:text=California%20is%20halting%20the%20sale,US%20market%20to%20do%20so; Marianne Goodland, *While Dozens of Bills Are Getting Axed, A Bill on Firefighting Chemicals Sails On*, Colorado Politics (May 28, 2020), https://www.coloradopolitics.com/legislature/while-dozens-of-bills-are-getting-axed-a-bill-on-firefighting-chemicals-sails-on/article_1b1e05f2-a11e-11ea-a270-230a36e06594.html; *Legislature Takes Strongest Stand Yet to Phase out PFAS in Firefighting Foam*, Washington State Council of Fire Fighters (March 5, 2020), https://www.wscff.org/legislature-takes-strongest-stand-yet-to-phase-out-pfas-in-firefighting-foam/;

[66] *FDA Announces the Voluntary Phase-Out by Industry of Certain PFAS Used in Food Packaging*, U.S. Food and Drug Administration, July 31, 2020, https://www.fda.gov/food/cfsan-constituent-updates/fda-announces-voluntary-phase-out-industry-certain-pfas-used-food-packaging.

[67] Muhannad Malas, *Home Depot, Lowe's and Staples Take Action to Protect Their Customers from PFAS and Other Harmful Toxics Lurking in Carpets and Office Supplies*, Environmental Defence (November 5, 2019), https://environmentaldefence.ca/2019/11/05/home-depot-lowes-staples-protect-customers-toxics/; *PFAS-Free Products*, PFAS Central, (last visited February 15, 2021), https://pfascentral.org/pfas-free-products/.

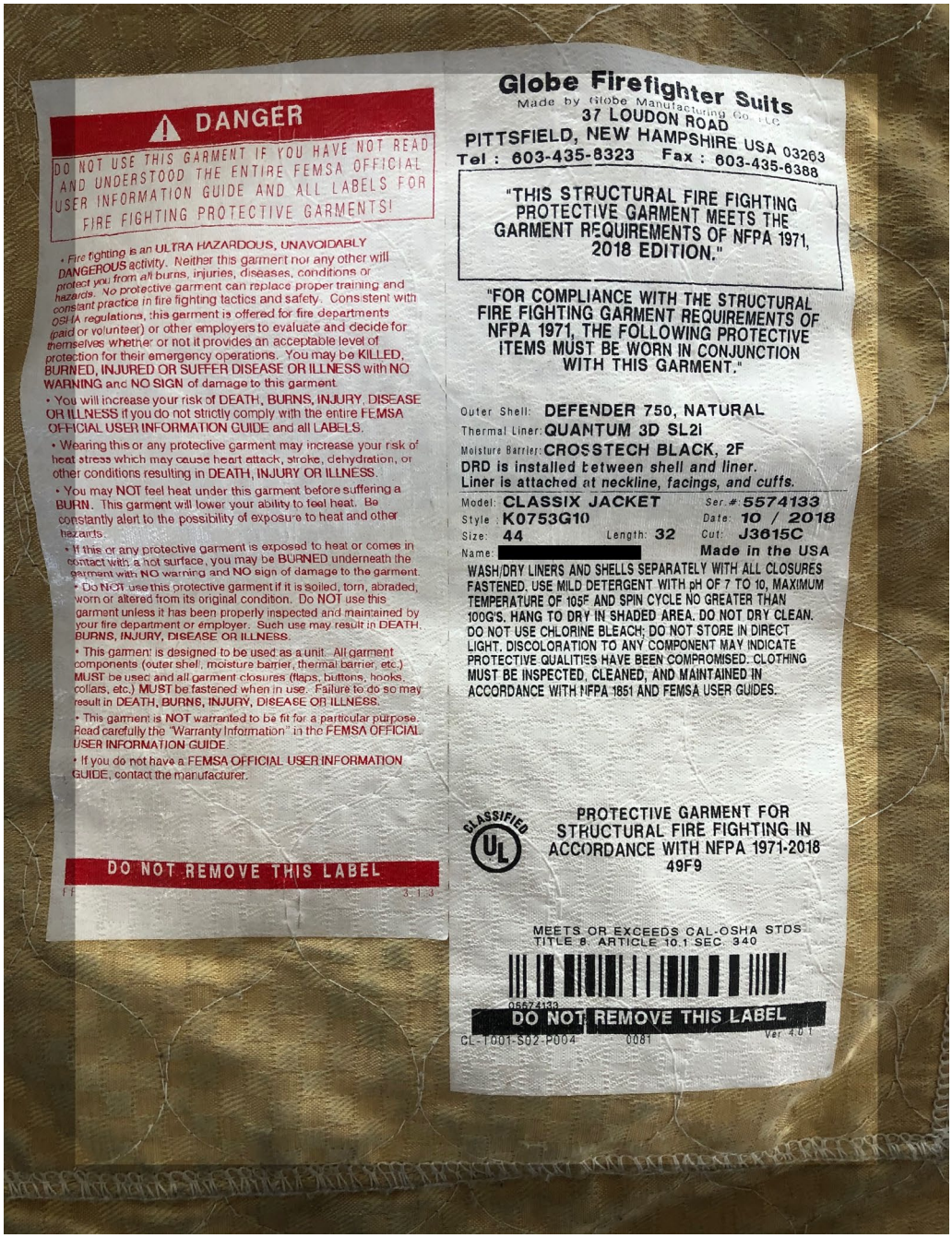
in fire suppression during their firefighting careers. The labels on the containers warn only of possible skin or eye irritation, and suggest rinsing areas of contact with water. They contain ***no information*** about the Class B foam containing PFAS or PFAS-containing materials, and provide ***no warning whatsoever*** of the human health risks and serious health conditions associated with PFAS exposure resulting from the normal and intended use of Class B foam in fire suppression or fire suppression training.



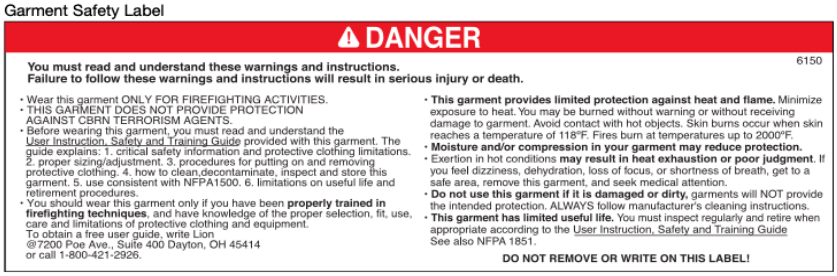
138. Plaintiffs further allege that turnouts containing PFAS or PFAS materials sold by Defendants in California, and used by the Firefighter Plaintiffs in training, emergency incidents, or in fire suppression during their firefighting careers, also contained no warning that the turnouts contain PFAS or PFAS materials. Nor did these labels inform persons handling, wearing, or using the turnouts as they were intended to be handled, worn or used can result in exposure to PFAS and serious bodily harm.

139. Below are pictures of warning labels for turnouts manufactured, marked, sold and distributed by Defendants MSA/Globe and Lion. As depicted below, the labels make no mention of

PFAS, do not advise that the turnouts contain PFAS or PFAS materials, and contain no warning that handling, wearing, or using the turnouts as they were intended to be handled, worn or used can result in exposure to PFAS and serious bodily harm. Further, while the labels provide washing instructions, the instructions do not advise that turnouts should be washed in a commercial extractor to prevent cross-contamination and PFAS-exposure to family members who handle or wash the turnouts with other garments in home washing machines.



Garment Safety Label



⚠ DANGER

6150

You must read and understand these warnings and instructions.
Failure to follow these warnings and instructions will result in serious injury or death.

- Wear this garment ONLY FOR FIREFIGHTING ACTIVITIES.
- THIS GARMENT DOES NOT PROVIDE PROTECTION AGAINST CBRN TERRORISM AGENTS.
- Before wearing this garment, you must read and understand the User Instruction, Safety and Training Guide provided with this garment. The guide explains: 1. critical safety information and protective clothing limitations. 2. proper sizing/adjustment. 3. procedures for putting on and removing protective clothing. 4. how to clean,decontaminate, inspect and store this garment. 5. use consistent with NFPA1500. 6. limitations on useful life and retirement procedures.
- You should wear this garment only if you have been **properly trained in firefighting techniques**, and have knowledge of the proper selection, fit, use, care and limitations of protective clothing and equipment.

To obtain a free user guide, write Lion @7200 Poe Ave., Suite 400 Dayton, OH 45414 or call 1-800-421-2926.

- **This garment provides limited protection against heat and flame.** Minimize exposure to heat. You may be burned without warning or without receiving damage to garment. Avoid contact with hot objects. Skin burns occur when skin reaches a temperature of 118°F. Fires burn at temperatures up to 2000°F.
- **Moisture and/or compression in your garment may reduce protection.**
- Exertion in hot conditions **may result in heat exhaustion or poor judgment**. If you feel dizziness, dehydration, loss of focus, or shortness of breath, get to a safe area, remove this garment, and seek medical attention.
- **Do not use this garment if it is damaged or dirty,** garments will NOT provide the intended protection. ALWAYS follow manufacturer's cleaning instructions.
- **This garment has limited useful life.** You must inspect regularly and retire when appropriate according to the User Instruction, Safety and Training Guide See also NFPA 1851.

DO NOT REMOVE OR WRITE ON THIS LABEL!

Garment Cleaning Label

Garment Information Label

LION

6484

Questions, write or call immediately:
Lion
7200 Poe Ave., Suite 400 Dayton, OH 45414. 1-800-421-2926

CLEANING AND STORAGE INSTRUCTIONS

- Users must clean, inspect, maintain, store and aller only in accordance with the User Instruction, Safety and Training Guide.
- Never use chlorine bleach. Chlorine bleach will significantly compromise the protection afforded by textile and film materials utilized in the construction of this garment.
- For coats only, remove DRD and launder DRD by hand washing with mild detergent and warm water.
- Fasten all hooks and D-rings and turn inside out or place in a laundry bag.
- Machine wash, warm water, using only liquid detergent and if needed, liquid non-chlorine bleach. Double rinse in cool water. Never use fabric softeners.
- Never dry clean.
- Dry by hanging in open area, out of direct or indirect sunlight and fluorescent light.
- Store out of direct or indirect sunlight and fluorescent light.

THIS STRUCTURAL FIRE FIGHTING PROTECTIVE GARMENT MEETS THE GARMENT REQUIREMENTS OF NFPA1971, 2013 EDITION.
PROTECTIVE GARMENT FOR STRUCTURAL FIRE FIGHTING IN ACCORDANCE WITH NFPA 1971-2013. 58F6

When worn with the inner liner and outer shell assembled together, this garment meets the personal protective equipment criteria of US Dept. of Labor OSHA Bloodborne Pathogens Standard, Title 29 CFR, Part 1910.1030, and CAL-OSHA Standard Title 8 Section 3406.

Rev.1.0 12112

DO NOT REMOVE OR WRITE ON THIS LABEL

Janesville
CROSSTECH MOISTURE BARRIER (PTFE)
GLIDE 2L ARAFLO E-89 (K) THERM.LINER
NOMEX E-89 QUILT
REQ:401971
MFG DATE:10/5/2012
CUT:104246AA006
MODEL:CVFM
LINER:C2K7CVFM
SIZE:4632R
0000652642

Garment Liner Attachment Safety Label

⚠ WARNING

FOR COMPLIANCE WITH THE STRUCTURAL FIRE FIGHTING GARMENT REQUIREMENTS OF NFPA 1971, THE FOLLOWING PROTECTIVE ITEMS MUST BE WORN IN CONJUNCTION WITH THIS GARMENT: OUTER SHELL 7.0 OZ MINIMUM WEIGHT

This INNER LINER alone does not provide protection against heat, flame, chemical or biological hazards. NEVER wear this INNER LINER without the SAME SIZE AND MODEL OUTER SHELL, as identified on labels located on each detachable component.

To reduce the risk of injury or death, you must assemble and wear together ALL of the following items:
1. protective coat and pant with outer shell, attached inner liner and DRD installed in coat 2. gloves 3. boots 4. helmet with eye protection 5. protective hood 6. SCBA 7. PASS device
ALWAYS make sure that all ensemble layers have the proper overlap and that all items fit with adequate looseness.Tight fit lowers insulation protection and restricts mobility.

MADE IN THE U.S.A.
DO NOT REMOVE OR WRITE ON THIS LABEL!

F# 6151

Drag Rescue Device (DRD) Label

(2) Defendants' MSDS Sheets Do Not Warn About PFAS or PFAS Exposure

140. A Material Safety Data Sheet (or "MSDS") is a document that Occupational Safety and Health Administration (OSHA) requires companies to provide to end users for products that contain substances or chemicals that are classified as hazardous or dangerous. Access to such information is necessary for the Firefighter Plaintiffs to provide a safe and effective response in emergency situations.

141. The MSDS provided with Defendants' Class B foams did not – and to this day do not – state that these foams contain PFAS or PFAS-containing materials; that PFAS is persistent, toxic and bio-accumulating; or that PFAS exposure causes serious bodily harm. To the contrary, the MSDS falsely stated that the Class B foams and/or their contents were ***not*** known carcinogens and did not cause birth defects.

142. Even now, the MSDS do not reflect the known serious health risks and hazards associated with exposure to PFAS in these Class B foams. For example, a MSDS updated on as recently as November 20, 2020 by Defendant National Foam for AFFF stated the product ***was not carcinogenic or toxic*** - contrary to decades of science.[68]

(3) Defendants' Misrepresentations About PFAS Continue to this Day

143. Despite their decades of knowledge about PFAS and its dangers, Defendants continue to make false claims, continue to misrepresent the safety of PFAS, and continue to minimize and fail to warn about the hazards of exposure to PFAS, or turnouts and Class B foams made with or containing PFAS.

144. Defendants' misinformation campaign is long-standing, and continues to this day. Some pertinent examples include:

a. 2017 – Defendant Lion's President, Stephen Schwartz, wrote a letter to the editor of the Columbus Dispatch, expressing outrage at the assertion in a government filing that firefighters may have been exposed to PFAS through turnout gear. Schwartz called this assertion false, stating that Lion's turn-out gear is not treated or made with PFOS or PFOA:. "PFOAs and PFOSs have never been components of LION's turn-out gear, either as a coating or as a textile." He acknowledged that turn-out gear is treated with PTFE to provide a durable water repellant, and that the textile industry in the past had used PFOA as a processing aid to manufacture PTFE moisture barrier films and repellants. "It is possible that trace amounts may have been present as a residue when the films and finishes were incorporated into LION's turn-out gear. ***However, based on all available scientific data, such nominal trace amounts, if they existed at all, would not have posed any health risk to firefighters. There is absolutely no connection at all between PFOS and firefighter turnout gear."*** (Emphasis added).[69]

b. 2018 – The National Fire Protection Association (which maintains committees on foams and turnouts that are comprised, in part, of certain Defendants) issued

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[68] National Foam Safety Data Sheet for Centurion (TMC6) 6% Aqueous Film Forming Foam Concentrate (AFFF) (November 20, 2020), https://nationalfoam.com/wp-content/uploads/sites/4/NMS340-Centurion-6-AFFF-Concentrate_11302020.pdf.

[69] Letter from LION president Stephen A. Schwartz to Ala D. Miller, Editor, The Columbus Dispatch (October 30, 2017), http://files.constantcontact.com/bf8abd7a001/01f5d727-d72e-42dc-971b-caa9c2855800.pdf.

a publication listing 11 ways to minimize risk of occupational cancer – the suggestions centered on wearing turnouts for protection resulting from combustion or spills, and cleaning turnouts after exposure to chemicals. There was not a single mention of avoiding contact with foam and/or the risks of wearing turnouts containing PFAS or PFAS-containing materials.[70]

c. 2019 – Defendant 3M Vice President, Denise Rutherford, testified before Congress that she ***absolutely agreed with the statement that "the weight of current scientific evidence does not show that PFOS or PFOA cause adverse health effects in humans at current rates of exposure***." (emphasis added)[71]

d. 2019 - The Fire Fighting Foam Council (of which many Defendants have been members since its inception in 2001) wrote in their newsletter that: "Short-chain (C6) fluorosurfactants do not contain or breakdown in the environment to PFOS or PFOA and are currently considered lower in toxicity and have significantly reduced bio-accumulative potential than long-chain PFAS."[72]

e. 2020 - FluorCouncil – the lobbying arm of the PFAS industry – maintains that PFAS fluorotelomers that are in Class B foam and turnouts do not cause cancer, disrupt endocrine activity, negatively affect human development or reproductive systems, do not build up in the human body, and do not become concentrated in the bodies of living organisms.[73]

f. 2020 – The Fire Fighting Foam Council website states: "The short-chain (C6) fluorosurfactants that have been the predominant fluorochemicals used in fluorotelomer-based AFFF for the last 25 years are low in toxicity and not considered to be bio-accumulative based on current regulatory criteria."[74]

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[70] *11 Best Practices for Preventing Firefighter Cancer Outlined in New Report Put Out by VCOS and NVFC*, National Fire Protection Association Xchange (August 16, 2018), https://community.nfpa.org/community/nfpa-today/blog/2018/08/16/11-best-practices-for-preventing-firefighter-cancer-outlined-in-new-report-put-out-by-vcos-and-nvfc.

[71] Gabe Schneider, *3M Grilled over PFAS Chemicals at Congressional Hearing*, MinnPost (September 11, 2019), https://www.minnpost.com/national/2019/09/3m-grilled-over-pfas-chemicals-at-congressional-hearing/.

[72] *AFFF Update Newsletter*, Fire Fighting Foam Council (April 2019), https://tinyurl.com/y57c5jwx.

[73] *An Important Update About FluoroCouncil*, FluoroCouncil, Global Industry Council for Fluoro Technology (last visited September 7, 2020), https://fluorocouncil.com/important-update-about-fluorocouncil/.

[74] *Fact Sheet on AFFF Fire Fighting Agents*, Fire Fighting Foam Council (2017), https://tinyurl.com/yyxscyas.

g. 2020 – The Fire Fighting Foam Council's Best Practice Guidance for Use of Class B Foam - which was published in May 2016 and has not been updated to reflect the latest research - focuses entirely on eliminating and containing foam to minimize impact on the environment. It makes no mention of how to minimize the impact on firefighters who routinely handle, prepare, spray, or use Class B foam during training or in firefighting.[75]

145. As frequent sponsors and advertisers in fire service publications, Defendants have been so influential in the industry that fire service leadership have echoed these narratives.

146. For example, in 2017, the International Association of Fire Fighters ("IAFF"), which represents more than 324,000 full-time professional firefighters, issued a statement that both mischaracterized and purported to state that the risks associated with exposure to PFAS and PFAS chemicals and materials in turnouts and Class B foams was minimal to non-existent. The statement even encouraged firefighters to continue to wear turnouts and use legacy Class B foams, creating a false sense that these PFAS-containing turnouts and foams were safe. The statement reads, in relevant part:

> Importantly, PFOA use has been almost completely phased out in the US….Fire fighters may have additional PFOA exposure sources such as older Class B firefighting foams. If PFOA is a combustion product of PFOA-containing consumer products made prior to phasing out use of this chemical, fire fighters will be exposed in fire suppression activities. However, the data are too limited at present to determine this**.** PFOA is unlikely to be a component in recently US manufactured turnout gear. However, if PFOA is a combustion product, it may be present as a contaminant on turnout gear. PFOA may also be present as a manufactured component of legacy turnout gear….The exposure contribution from any such PFOA content is likely to be minimal since volatilization from the manufactured product would be required….**At this time, IAFF does not recommend that legacy turnout gear be replaced outside of its lifecycle. Fire fighters wishing to minimize PFOA exposure should continue to wear their PPE…and regularly decontaminate their turnout gear.** IAFF will continue to monitor developments and update this fact sheet should new information become available.[76]

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[75] *Best Practice Guidance for Use of Class B Firefighting Foams*, Fire Fighting Foam Council (May 2016), https://tinyurl.com/2kzdsed9.

[76] *Statement on PFOA and Turnout Gear*, International Association of Firefighters, (May 2017), https://tinyurl.com/y29mfh69.

147. The IAFF maintained this position until January 2021 when IAFF members demanded that the IAFF leadership hold turnout and Class B foam manufacturers accountable. [77]

148. Because of these and other false claims and misrepresentations on the part of Defendants, the Firefighter Plaintiffs did not know and, in the exercise of reasonable diligence, could not have known that the turnouts and Class B foams they used contained PFAS or PFAS-containing materials, and caused the Firefighter Plaintiffs to be exposed to PFAS and/or PFAS-containing materials, causing them to suffer cancers and other serious illnesses as a result of such exposure.

149. The Firefighter Plaintiffs only learned for the first time that they had significantly elevated levels of PFAS in their blood in January 2021, when they received test results of their blood serum.

150. Also, in January 2021, Defendants DuPont and Chemours along with Corteva (the agricultural unit of DuPont that it spun off in 2019) announced a cost-sharing agreement worth $4 billion to settle lawsuits involving the historic use of PFAS – thereby acknowledging, at long last, the significant harm their PFAS chemicals have caused to human health and the environment.

F. New Research Indicates That Firefighters are at Significant Risk of Harm From Exposure to PFAS in Turnouts and Class B Foams — But Defendants Continue to Discount or Deny These Risks

151. While historical research (and follow-on litigation) has centered on environmental

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[77] As a result of pressure by its firefighter members, IAFF leadership has only recently begun to take action related to PFAS exposure. At the IAFF Annual Meeting in January 2021, two groundbreaking PFAS-related firefighter safety resolutions passed with the support of 99% of the membership. The resolutions require IAFF to: (1) sponsor independent testing of turnouts for PFAS and PFAS-related hazards, (2) oppose the use of PFAS and PFAS-containing materials in turnouts, (3) require manufacturers to cease using PFAS in their firefighting products (4) identify which manufacturers will not cease using PFAS, (5) issue an advisory to fire departments to stop sending used or old turnouts to communities that are not able to buy new gear and instead provide grants to purchase new gear, and (6) cease accepting financial sponsorships from any PFAS/chemical-related companies unless it is to purchase PFAS-free turnout gear. Andrew Wallender, *PFAS Resolutions Overwhelmingly Approved by Firefighters' Union*, Bloomberg Law (February 1, 2021), https://news.bloomberglaw.com/daily-labor-report/pfas-resolutions-overwhelmingly-approved-by-firefighters-union; San Francisco Firefighters Cancer Prevention Foundation, (last visited February 26, 2021), https://www.sffcpf.org/resolutions-to-protect-members-from-toxic-substances-in-ppe/.

impacts and environmental exposures associated with PFAS and PFAS-containing products, recent studies have focused specifically on the serious health impacts to firefighters stemming from their occupational exposure to turnouts and Class B foams containing PFAS.

152. In October 2019, for example, an expert panel of the International Pollutants Elimination Network (IPEN), an international non-profit organization comprised of over 600 public interest non-governmental organizations dedicated to improving global chemical waste policies, published a scientific paper that, in the words of its authors, "presents unequivocal evidence from recent studies that firefighters" using Class B foams (primarily AFFF) "have unexpectedly elevated blood levels" of PFAS, including, specifically, PFHxS and PFOS, with PFHxS (a short-chain, C6 PFAS) being "potentially of greater concern than PFOS given its much longer elimination half-life in humans." [78] The paper explains that "[f]irefighters can be significantly exposed to PFHxS and other PFAS from firefighting foam via various occupational mechanisms including direct exposure during use as well as exposure from contaminated personal protective equipment (PPE), handling of contaminated equipment, managing PFAS foam wastes, occupation of contaminated fire stations and consumption of contaminated local water and produce. Cross-contamination and legacy PFAS residues from inadequately decontaminated appliances after transitioning to fluorine-free foam can remain a long-term problem."[79] The panel concluded that "[o]ngoing exposure to PFHxS, PFOS and other PFAS amongst firefighters remains a major occupational health issue," noting that "[b]io-accumulation and very slow bio-elimination may be very significant influencing factors in PFHxS exposure" in firefighters[80]. "Of greater concern," the panel observed, "is that firefighter blood levels for PFOS and PFHxS are many times higher than the median values for the general…population."[81]

153. In June 2020, scientists at the University of Notre Dame published a ground-breaking study on PFAS in turnout gear, and the exposure risks posed to firefighters that wear, wore, or handle

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[78] *Perfluorohexane Sulfonate (PFHxS) – Socio-Economic Impact, Exposure and the Precautionary Principle Report*, IPEN Expert Panel (October 2019), https://ipen.org/sites/default/files/documents/pfhxs_socio-economic_impact_final_oct.2019.pdf.

[79] *Id*. at p. 25.

[80] *Id*.

[81] *Id*.

such gear ("Notre Dame Turnout Study"). The Notre Dame Turnout Study analyzed over 30 sets of used and unused (still in their original packaging) turnout gear made by six U.S. manufacturers, including Defendants MSA/Globe, Lion and Honeywell, over several production years, as listed below:[82]

PPE gear manufacturers sampled:	# samples
Globe Manufacturing (Pittsfield MA),	11
Lion Group (Dayton OH),	12
Honeywell First Responder (Dayton, OH),	2
Lakeland Fire (Decatur, AL)	2
Quest Fire Apparel (Saratoga Springs, NY)	1
Quaker Safety (Quakertown, PA)	2

The type and number of turnout gear samples used in this study.

154. The Notre Dame Turnout Study noted that these manufacturers' turnout gear (or personal protective equipment-PPE, as it is described in the study) are manufactured "from textiles that are made from fluoropolymers (one form of PFAS) or extensively treated by PFAS in the form of side-chain fluoropolymers."[83] According to the researchers, "[t]hese PFAS include fluoropolymer materials such as PTFE used as a moisture barrier in the inner layers of turnout gear."[84] The study found significant levels of PFAS chemicals – including PFOA, PFOS, PFBA, PFPeA, PFHxA, PFHpA, PFNA, PFDA, PFUnA, PFDoA, PFTrDA, PFToDA, PFBS, PFOSA, N-EtFOSA, MeFOSAA, N-MeFOSE, N-EtFOSE and 6:20FTS – in both new and used turnout gear, and across layers, portions, and materials in the turnout gear, including in material layers that are not intentionally treated with PFAS by the manufacturer, thereby providing "the first evidence that suggests PFAS appear to migrate from the highly fluorinated layers and collect in the untreated layer of clothing worn against the skin."[85]

155. These findings suggest that, as the garments are worn, PFAS from the outer shell and

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[82] *Id.* at fn. 7.

[83] *Id.* at p. A.

[84] *Id.*

[85] *Id.* at p. C.

the moisture barrier can migrate from the turnouts and contaminate both the firefighter, their apparatus and workplace with PFAS. The analysis also indicated that fluoropolymers from the outer layer decompose into other PFAS, including PFOA.

Table 2. Quantities of Target PFAS (in ppb) Found in US Turnout Gear by LC−MS/MS Analysis

	jacket 2008 unused			pants 2014 used			jacket 2008 used	jacket 2017 unused
values in ppb	thermal liner	moisture barrier	outer shell	thermal liner	moisture barrier	outer shell	moisture barrier	moisture barrier
PFBA	<MDL	12.8	10.6	139	615	21.5	20.5	991
PFPeA	<MDL	12.6	17.8	228	104	164	18.1	2.49
PFHxA	<MDL	30.5	36.9	199	28.6	10.9	35.8	36.9
PFHpA	<MDL	12.4	25.4	105	5.82	2.23	14.3	25.4
PFOA	78	46	182	850	71	97	37	<MDL
PFNA	2.63	<MDL	8.2	25.3	1.95	<MDL	2.76	<MDL
PFDA	2.98	6.51	5.51	133	<MDL	<MDL	23.7	<MDL
PFUnA	<MDL	<MDL	<MDL	7.96	<MDL	<MDL	2.51	<MDL
PFDoA	<MDL	5.01	<MDL	68.6	<MDL	<MDL	25.9	<MDL
PFBS	283	140	142	53 400	47 900	1050	230	90 400
PFOS	<MDL	<MDL	<MDL	7	<MDL	<MDL	2	<MDL
6:2 FTS	<MDL	<MDL	<MDL	25.9	12.9	<MDL	<MDL	<MDL
8:2 FTS	<MDL	<MDL	<MDL	11.1	<MDL	<MDL	<MDL	<MDL

156. "Startlingly," researchers reported, "garment to hand transfer of total fluorine in the ppm range was also observed when researchers simply manipulated the textiles in [the] laboratory."[86] The accumulation of PFAS on researchers' hands strongly suggests that transference of ppm levels of PFAS can occur merely by handling the turnouts and that PFAS exposure pathways include inhalation, ingestion and/or absorption (through dermal contact) – all of which DuPont internally acknowledged as being toxic in 1980. Such exposure pathways are a concern not only for firefighters that rely on turnouts to protect them from heat, fire, water and chemical hazards in the field, but to family members who may be exposed to the PFAS in turnouts as the result of home washing or storage. Lead researcher Graham Peaslee commented that turnouts are "the most highly fluorinated textiles I've ever seen"[87] and that the level of PFAS in the turnout gear means that firefighters are

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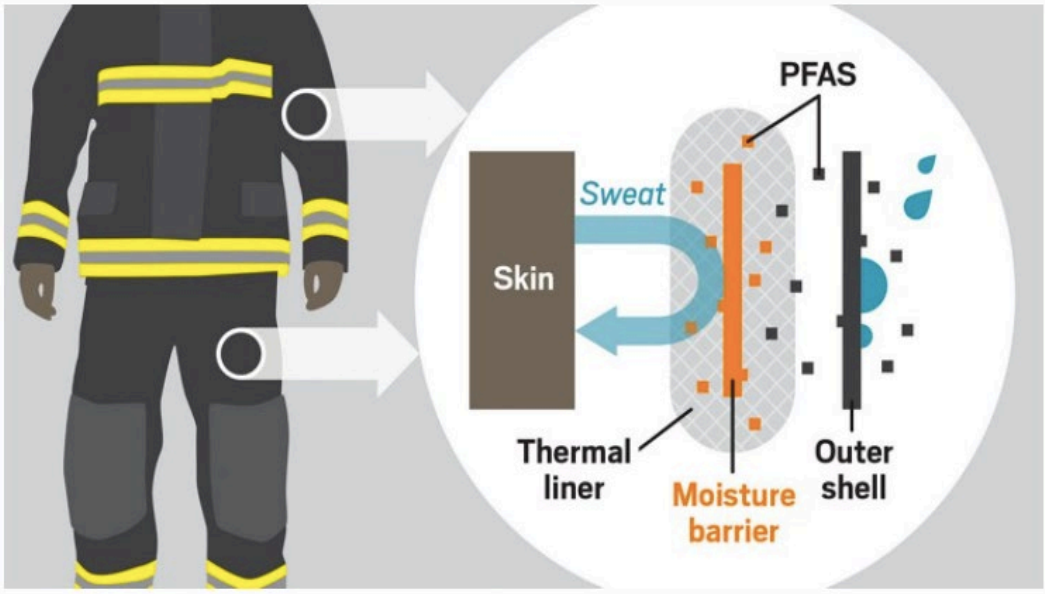
[86] *Id.*

[87] Raleigh McElvery, *Protective Gear Could Expose Firefighters to PFAS*, Chemical and Engineering News (July 1, 2020), https://cen.acs.org/environment/persistent-pollutants/Protective-gear-expose-firefighters-
(footnote continued)

"swimming in a sea of [PFAS]. Those numbers for scientists are scarily high..."[88]



Credit: *Environ. Sci. Technol. Lett.*

Over time, PFAS in a firefighter's turnout gear can migrate from a moisture barrier (orange) into a thermal liner that contacts skin. PFAS can also be shed from an outer shell (black) into the environment.

157. Despite these findings, Defendants have been quick to mischaracterize, dismiss or downplay the significance of the Notre Dame Turnout Study. Defendant MSA/Globe, when contacted about the study and asked whether Globe planned to study this issue and find an alternative to PFAS for turnouts, merely responded thusly: "[P]rotecting (firefighters) is Globe's business; every piece of our turnout gear meets or exceeds applicable industry standards."[89]

158. Defendant Lion's responses have been similar, and have also dismissed or minimized the significance of the Notre Dame Turnout Study's findings. Lion issued a Customer Safety Alert for PFOA and Turnout Gear stating: "Your LION turnout gear continues to be safe and ready for action especially when properly maintained. It is extremely important that firefighters continue to

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PFAS/98/i26?fbclid=IwAR3ktyIcasjnxHiv3RNDRJldZmunQleAEoS3Av225uOscj2hFbffVcO3-Go.

[88] Andrew Wallender, *Firefighters Face New Possible Risk From Toxic PFAS: Their Gear*, Bloomberg Law (June 23, 2020), https://news.bloomberglaw.com/pfas-project/firefighters-face-new-possible-risk-from-toxic-pfas-their-gear.

[89] Blair Miller, *Local Firefighters Concerned About Potentially Dangerous Chemicals on Gear*, Boston 25 News (February 26, 2019), https://www.boston25news.com/news/local-firefighters-facing-concerns-over-potentially-dangerous-chemicals-on-gear/92523612/..

wear and properly care for their gear to stay safe on the job."[90]

159. The Customer Safety Alert goes on to stress that Lion does not use PFOA or PFOS (two long-chain PFAS chemicals) in its turnouts.[91] It does not, however, address that the maker's turnouts in fact contain other PFAS chemicals, nor warn firefighters or the public about health harms associated with exposure to these toxic, bio-accumulating chemicals.

HERE'S ALL YOU NEED TO KNOW ABOUT PFOA AND YOUR TURNOUT GEAR.

What is PFOA and why are we talking about it?

Perfluorooctanic Acid (PFOA) is a chemical that until recently was used in the process to make many different industrial chemicals and products. The manufacture and use of PFOA was mostly phased out by major chemical companies by 2010. By 2015, its manufacture was eliminated in the United States.

In the firefighting protective clothing industry, PFOA was used as a processing agent in the manufacture of resins used to make PFTE films – the primary component of the moisture barrier used in turnout gear. While most residual PFOA was eliminated from the manufacturing process of PTFE, some tiny trace amounts remained.

LION does not use PFOA or PFOS in our turnout gear or any of our protective products.

PFOS has never been a component of turnout gear. PFOS health and environmental concerns are largely related to AFFF foams and are not connected to turnout gear.

160. Defendant Lion's paid consultant, Dr. Paul Chrostowski, also has taken aim at the Notre Dame Turnout Study and its findings. Refuting a *Fire Rescue* magazine article about the study,[92] Chrostowski repeated Lion's website statement that "PFOA was never part of the gear itself and frequent independent testing has found only trace amounts of it in any of the gear – not nearly enough to cause concern, and in amounts similar to consumer products."[93] Chrostowski went on to say "[t]he fact is that one may find trace amounts of 'short-chain' PFAS such as PFBS and PFHxA in firefighting textiles, but the scientific research shows that these materials are far less toxic than

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[90] LION Customer Safety Alert – PFOA and Turnout Gear (April 24, 2019), https://cdn2.hubspot.net/hubfs/3475623/LION_PFOA_factsheet_042419.pdf.
[91] *Id*.
[92] Larissa Conroy, *What If I Told You That Your Bunker Gear Was Causing Cancer?*, Fire Rescue (May 28, 2020), https://www.firefighternation.com/firerescue/what-if-i-told-you-that-your-bunker-gear-was-causing-cancer/#gref.
[93] Paul Chrostowski, Ph.D., QEP, *Research and Independent Testing Shows Firefighters' Turnout Gear Remains Safe Despite Claims*, Fire Rescue (June 3, 2020). https://firerescuemagazine.firefighternation.com/2020/06/03/research-and-independent-testing-shows-firefighters-turnout-gear-remains-safe-despite-claims/ - gref.

even PFOA and at the tiny trace levels the risk are extremely low based on numerous credible published scientific research papers."[94] Finally, Chrostowski falsely stated that the link between PFAS exposure and cancer is "extremely weak."[95]

161. And yet, Lion concedes that dermal absorption is a pathway of exposure to cancer-causing chemicals for firefighters. In a *Not in Our House* cancer awareness fact sheet that currently appears on the company's website, Lion warns firefighters: "For every 5 degree increase in temperature, skin becomes 400% more absorbent. The hotter you are, the more carcinogens your skin

[94] *Id.*
[95] *Id.*

absorbs.[96] This statistic is alarming given that the core body temperature of firefighters routinely increases during firefighting activities while wearing turnouts which contain known carcinogens.[97]

162. The IAFF holds a **yearly** cancer summit and yet has done little to address the PFAS in turnouts.[98] Defendants, including at least DuPont, Gore, Lion and MSA (Globe), have been regular sponsors of the IAFF Cancer Summit.

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[96] LION website, https://cdn2.hubspot.net/hubfs/3475623/NOT IN OUR HOUSE Tip Sheet_Infographic (02-02-19).pdf (last visited February 26, 2021).

[97] Nancy Espinoza, *Can We Stand the Heat?*, Journal of Emergency Medical Services, (April 30, 2008), https://www.jems.com/operations/can-we-stand-heat-study-reveal/; Gavin P. Horn, et al., *Thermal Response to Firefighting Activities in Residential Structure Fires: Impact of Job Assignment and Suppression Tactic*, Ergonomics (July 31, 2017), https://tinyurl.com/4j2mz7f7.

[98] As alleged above, in para. 147, fn. 77, IAFF has only recently begun to take action related to PFAS exposure due to pressure from its firefighter members. At the IAFF Annual Meeting in January 2021, two groundbreaking PFAS-related firefighter safety resolutions passed with the support of 99% of the membership. The resolutions require IAFF to: (1) sponsor independent testing of turnouts for PFAS and PFAS-related hazards, (2) oppose the use of PFAS and PFAS-containing materials in turnouts, (3) require manufacturers to cease using PFAS in their firefighting products (4) identify which manufacturers will not cease using PFAS, (5) issue an advisory to fire departments to stop sending used or old turnouts to communities that are not able to buy new gear and instead provide grants to purchase new gear, and (6) cease accepting financial sponsorships from any PFAS/chemical-related companies unless it is to purchase PFAS-free turnout gear. Andrew Wallender, *PFAS Resolutions Overwhelmingly Approved by Firefighters' Union*, Bloomberg Law (February 1, 2021), https://news.bloomberglaw.com/daily-labor-report/pfas-resolutions-overwhelmingly-approved-by-firefighters-union; San Francisco Firefighters Cancer Prevention Foundation, (last visited February 26, 2021), https://www.sffcpf.org/resolutions-to-protect-members-from-toxic-substances-in-ppe/.

163. At this event, as well as in firefighter cancer-related publications, programs and events, Defendants repeatedly used the summit as an opportunity to push the narrative that incidence of cancer among firefighters is attributable either to ***other chemicals*** encountered in the line of duty, or firefighters' failure to wash their turnouts after every call. Not once have the turnout Defendants admitted that the PFAS materials in their products has been found to be carcinogenic, and that the very equipment that should be protecting firefighters are causing the most harm. Further, Lion's recently launched "Not in Our House" cancer awareness program is sadly ironic in that it encourages *firefighters to make a pledge* ("I will make every effort to protect myself and my team by doing my part to take precautions that will minimize the risk of exposure to carcinogens that may lead to cancer…") while refusing to take any responsibility for continually exposing firefighters to carcinogens in their protective gear.[99]

164. Firefighter Plaintiffs deserve more. They are the first to respond to emergencies faced by their community, and never hesitate to help. Whether delivering a baby, responding to a fire, medical emergency, accident, mass shooting, terrorist attack, natural disaster, or teaching kids about fire safety, firefighters always put the community first. When a child is drowning in a pool or a family is caught in a burning house, they do not stop to calculate whether they will benefit by doing the right thing. They are true public servants. They step in and do what is needed when it is needed the most. Their health, safety and well-being must be of the highest priority.

G. The Firefighter Plaintiffs Have Significant Levels of PFAS in their Blood

165. After years of Defendants suppressing research showing PFAS to be toxic and associated with cancer and other serious illnesses, misrepresenting the safety of PFAS and PFAS-containing turnouts and Class B foam, and attributing the cause of firefighters' cancers and other serious illnesses to factors other than turnouts and Class B foams (or the PFAS chemicals and materials in these foams and turnouts), Firefighter Plaintiffs could not know and, in fact, did not know

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[99] Rachel Zoch, *Take A Pledge To Stop Cancer At the Door*, Fire Rescue 1 (January 28, 2019), https://www.firerescue1.com/fire-products/personal-protective-equipment-ppe/articles/take-a-pledge-to-stop-cancer-at-the-door-e8bn7uAbtIXWdQau/.

that significant levels of PFAS was likely to or had bio-accumulated in their blood.

166. In December 2020, prior to filing this complaint, Firefighter Plaintiffs submitted blood serum samples to public health professionals at the University of California, San Francisco (UCSF) for PFAS level testing and analysis. The results are startling.

167. The testing shows that those Firefighter Plaintiffs who submitted to testing have significant levels of PFAS in their blood for multiple PFAS chemicals, including PFOA, PFNA, PFDA, PFUnDA, PFOS, PFDOA, PFOS, PFBA, and PFBuS. The geometric mean[100] for the Firefighter Plaintiffs' PFAS blood levels across each of these PFAS chemicals is substantially higher – at least double the national NHANES averages in almost every category - for each of the above-described PFAS chemicals compared to PFAS levels found in the general public as reported by the National Health and Nutrition Examination Survey ("NHANES") of the Center for Disease Control for the most recent NHANES reporting period.

168. Importantly, the Firefighter Plaintiffs' blood samples showed especially significant levels of PFOA and PFOS – two PFAS chemicals contained in turnouts and Class B foams that are known carcinogens and have been found to cause cancer and other serious health illnesses in humans.

169. Firefighter Plaintiffs only learned for the first time that they were likely to have, and in fact had, significantly elevated levels of PFAS in their blood in January 2021, after testing results revealed these facts.

170. Based on all of the foregoing, Firefighter Plaintiffs, and certain of their spouses, the Spouse Plaintiffs, bring this action for damages and for other appropriate relief sufficient to compensate them for the significant harm Defendants' PFAS chemicals and PFAS-containing products have caused.

EQUITABLE TOLLING OF APPLICABLE STATUE OF LIMITATIONS

171. Plaintiffs incorporate by reference all prior paragraphs of this complaint as though fully set forth herein.

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[100] The geometric mean is a mean or average, which indicates the central tendency or typical value of a set of numbers by using the product of their values (as opposed to the arithmetic mean which uses their sum).

A. Fraudulent Concealment

172. Defendants have known or should have known about the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS and PFAS-containing materials since at least the 1960s and as late as the early 1990s when study after study showed not only unacceptable levels of toxicity and bioaccumulation in human blood, but links to increased incidence of liver damage, various cancers and birth defects.

173. Through no fault or lack of diligence, Plaintiffs were deceived regarding the safety of turnouts and Class B foam and could not reasonably discover the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in turnouts and Class B foam, nor Defendants' deception with respect to the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in turnouts and Class B foam.

174. Plaintiffs did not discover and did not know of any facts that would have caused a reasonable person to suspect that Defendants were concealing the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in turnouts and Class B foam. As alleged herein, the existence of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in turnouts and Class B foam was material to Plaintiffs at all relevant times. Within the time period of any applicable statutes of limitations, Plaintiffs could not have discovered through the exercise of reasonable diligence the existence of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in turnouts and Class B foam, nor that Defendants were concealing the fact of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in turnouts and Class B foam.

175. Defendants did not fully disclose the seriousness of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in turnouts and Class B foam, but instead ignored and/or concealed the defect from Plaintiffs and the public, and refused to provide safe alternatives to PFAS or PFAS-containing materials in turnouts and Class B foam.

176. At all times, Defendants are and were under a continuous duty to disclose to Plaintiffs the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in turnouts and Class B foam.

177. Defendants knowingly, actively, and affirmatively concealed the facts alleged herein. Plaintiffs reasonably relied on Defendants' knowing, active, and affirmative concealment.

178. For these reasons, any and all applicable statutes of limitations have been tolled as a consequence Defendants' ongoing knowledge, active concealment, and denial of the facts alleged herein.

B. Estoppel

179. Defendants were and are under a continuous duty to disclose to Plaintiffs the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in Class B foam and turnouts.

180. Instead, Defendants actively concealed the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS and PFAS-containing materials in Class B foam and turnouts; and knowingly made misrepresentations about the quality, reliability, characteristics, safety and performance of Class B foam and turnouts.

181. Plaintiffs reasonably relied upon Defendants' knowing and affirmative misrepresentations, and/or active concealment, of these facts.

182. Based on the foregoing, Defendants are estopped from relying on any and all applicable statutes of limitations in defense of this action.

C. Discovery Rule

183. The causes of action alleged herein did not accrue until Plaintiffs discovered that the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in Class B foam and turnouts.

184. Plaintiffs, however, had no realistic ability to discern or suspect that the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in Class B foam and turnouts were a substantial cause of their injuries until—at the earliest— the Firefighter Plaintiffs received their test results revealing that they had significantly

elevated levels of PFAS in January 2021.

185. Even then, Plaintiffs would have had no reason to discover their causes of action, because of Defendants' active and ongoing concealment of the true nature of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in Class B foam and turnouts, and their prior knowledge of it.

186. Accordingly, Defendants are precluded by the Discovery Rule and/or doctrine of fraudulent concealment, and/or the doctrine of estoppel from relying upon any and all applicable statutes of limitations.

FIRST CAUSE OF ACTION

STRICT LIABILITY - DESIGN DEFECT

187. This cause of action is asserted against all Defendants on behalf of all of the Firefighter Plaintiffs.

188. The Firefighter Plaintiffs incorporate by reference all prior paragraphs of this complaint, as though fully set forth herein.

189. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, distributing, supplying, testing, labeling, promoting, or advertising of turnouts and/or Class B foam and through that conduct have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they were sold to fire departments or to companies that sold turnouts and/or Class B foam to fire departments for use by firefighters such as the Firefighter Plaintiffs, who are exposed to PFAS through ordinary and foreseeable uses for the purpose of firefighting activities and training.

190. Defendants intended that the turnouts and/or Class B foam they were manufacturing, selling, distributing, supplying, promoting, and or selling would be used by firefighters, including the Firefighter Plaintiffs, without any substantial change in the condition of the products from when it was initially manufactured, sold, distributed, and marketed by Defendants. Turnouts and/or Class B foam were not safe for use by firefighters even when used as directed by the manufacturer and for its intended purpose for firefighting activities which include training, extinguishment, ventilation, search-and-rescue, salvage, containment, and overhaul.

191. Further, knowing of the dangerous and hazardous properties of turnouts and Class B foam, Defendants could have manufactured, marketed, distributed, and sold alternative designs or formulations of turnouts and/or Class B foam that did not contain PFAS.

192. These alternative designs and/or formulations were already available, practical, similar in cost, and technologically feasible.

193. The use of these alternative designs would have reduced or prevented the reasonably foreseeable harm to the Firefighter Plaintiffs that was caused by the Defendants' manufacture, marketing, and sale of turnouts and/or Class B foam containing PFAS and PFAS-containing materials.

194. Additionally, the turnouts and/or Class B foam that were designed, manufactured, marketed, tested, advertised, marketed, promoted, sold, and distributed by the Defendants contained PFAS or PFAS-containing materials that were so toxic and unreasonably dangerous to human health and the environment, with the toxic chemicals being so mobile and persistent, that the act of designing, formulating, manufacturing, marketing, distributing, and selling these products was unreasonably dangerous under the circumstances.

195. The turnouts and/or Class B foam designed, manufactured, marketed, tested, advertised, marketed, promoted, sold and distributed by the Defendants were dangerous and defective in design or formulation because, at the time in which the products left the hands of the manufacturer or distributors, the foreseeable risks exceeded the benefits associated with the design or formulation of turnouts and/or Class B foam.

196. The turnouts and/or Class B foam designed, manufactured, marketed, tested, advertised, marketed, promoted, sold, and distributed by the Defendants were dangerous and defective in design or formulation because, when the PFAS-containing products left the hands of the manufacturer or distributors, said products were unreasonably dangerous, unreasonably dangerous in normal use, and were more dangerous than an ordinary consumer-firefighter would expect.

197. The turnouts and/or Class B foam were in a defective condition and unsafe, and Defendants knew or had reason to know that these PFAS-containing products were defective and unsafe, especially when used in the form and manner as provided by Defendants. In particular,

Defendants PFAS-containing products were defective in the following ways:

198. When placed in the stream of commerce, Defendants' PFAS-containing turnouts and/or Class B foam were defective in design and formulation and as a result failed to meet ordinary users' expectations as to their safety and failed to perform as an ordinary user would expect;

199. When placed in the stream of commerce, Defendants' PFAS-containing turnouts and/or Class B foam were defective in design and formulation, and as a result, dangerous to an extent beyond which an ordinary consumer-firefighter would anticipate.

200. When placed in the stream of commerce, Defendants' PFAS-containing turnouts and/or Class B foam were unreasonable dangers in that they were hazardous and posed a grave risk of cancer and other serious illnesses when used in a reasonably anticipated manner.

201. When placed in the stream of commerce, Defendants' PFAS-containing turnouts and/or Class B foam contained unreasonably dangerous design defects and were not reasonably safe when used in a reasonably anticipated manner.

202. When placed in the stream of commerce, Defendants' PFAS-containing turnouts and/or Class B foam did not provide an adequate warning of the potential harm that might result from exposure to PFAS and/or emitted from the turnouts and/or Class B foam and, alternatively, did not have adequate instructions for safe use of the products.

203. Exposure to PFAS presents a risk of grave and harmful side effects and injuries that outweigh any potential utility stemming from their use;

204. Defendants knew or should have known at the time of manufacturing, selling, distributing, promoting or marketing their PFAS-containing turnouts and/or Class B foam that exposure to PFAS could result in cancer and other grave and serious illnesses and injuries as alleged herein.

205. The foreseeable risk of harm could have been reduced or eliminated by the adoption of a reasonable, alternative design that was not unreasonably dangerous.

206. The Firefighter Plaintiffs used these PFAS-containing products in the ways that Defendants intended them to be used.

207. The Firefighter Plaintiffs' used these PFAS-containing produces in ways that were

foreseeable to Defendants.

208. The Firefighter Plaintiffs were exposed to PFAS by using Defendants' turnouts and/or Class B foam in the course of their employment, as described above, without knowledge of turnouts' and/or Class B foam's dangerous propensities.

209. The design defect in turnouts and/or Class B foam containing PFAS exposed the Firefighter Plaintiffs to toxic levels of PFAS and therefore, was a substantial factor in causing the Firefighter Plaintiffs' injuries and damages as described herein.

210. As a result of Defendants' design and formulation of a defective product, Defendants are strictly liable in damages to the Firefighter Plaintiffs.

211. As a direct and proximate result of the foregoing acts and omissions, the Firefighter Plaintiffs suffered the injuries and damages described herein.

212. Defendants acted with willful or conscious disregard for the rights, health, and safety of the Firefighter Plaintiffs, as described herein, thereby entitling the Firefighter Plaintiffs to an award of punitive damages.

SECOND CAUSE OF ACTION

STRICT LIABILITY – FAILURE TO WARN

213. This cause of action is asserted against all Defendants on behalf of all of the Firefighter Plaintiffs.

214. The Firefighter Plaintiffs incorporate by reference all prior paragraphs of this complaint, as though fully set forth herein.

215. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, distributing, supplying, testing, labeling, promoting, or advertising of turnouts and/or Class B foam containing PFAS or PFAS-containing materials and, through that conduct, have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they were sold to fire departments or to companies that sold turnouts and/or Class B foam to fire departments for the use by firefighters such as the Firefighter Plaintiffs, who were exposed to PFAS through ordinary and foreseeable uses for the purpose of firefighting activities and training.

216. The products complained of were manufactured, designed, sold, supplied and/or distributed by each of the Defendants and used by and/or in the vicinity of the Firefighter Plaintiffs during their lifetime and/or they were exposed to PFAS while using turnouts and/or Class B foam in the ordinary course of performing their duties as firefighters.

217. Defendants expected that the PFAS-containing products they were manufacturing, selling, distributing, supplying, and/or promoting would reach firefighters, including the Firefighter Plaintiffs, without any substantial change in the condition of the products from when it was initially manufactured, sold, distributed, and marketed by Defendants.

218. Defendants knew or should have reasonably known that the manner in which they were manufacturing, marketing, and selling turnouts and/or Class B foam containing PFAS was hazardous to human health.

219. The potential risks of using PFAS-containing products presented a substantial danger to firefighters, including the Firefighter Plaintiffs, when the turnouts and/or Class B foam were used or worn in an intended or reasonably foreseeable way.

220. The Firefighter Plaintiffs used Class B foam and wore turnouts in the intended or reasonably foreseeable way in the ordinary course of performing their duties as firefighters, including fire suppression and fire suppression training.

221. The turnouts and/or Class B foam manufactured, marketed, and sold by the Defendants was dangerous and defective because the foreseeable risk of harm could have been reduced or eliminated by the adoption of a reasonable, alternative design that was not unreasonably dangerous.

222. Defendants' products were in a defective condition and unreasonably dangerous, in that turnouts and/or Class B foam which, by design, contain PFAS or PFAS-containing products, are deleterious, toxic, and highly harmful to the Firefighter Plaintiffs.

223. Defendants knew or should have reasonably known that exposure to PFAS was hazardous to human health, but:

a. Did not provide an adequate warning of the potential harm that might result from exposure to PFAS or PFAS-containing materials in turnouts and/or Class B foam;

b. Did not have adequate instructions for safe use of the products;

c. Did not have warnings to persons, such as the Firefighter Plaintiffs, who had been, or reasonably may have been, exposed to Defendants' turnouts and/or Class B foam, of their disease potential, the proper steps to take to reduce the harmful effects of previous exposure, the need to have periodic medical examinations including the giving of histories which revealed the details of the previous exposure, and the need to have immediate and vigorous medical treatment for all related adverse health effects;

d. Did not manufacture, market, promote, distribute or sell reasonably comparable products not containing PFAS when it became feasible to design.

224. At the time of manufacture, distribution, promotion, labeling, distribution, and/or sale, Defendants could have provided warnings or instructions regarding the full and complete risks of turnouts and/or Class B foam containing PFAS or PFAS-containing materials, because Defendants knew or should have known of the unreasonable risks of harm associated with the use of and/or exposure to such products.

225. At all relevant time, Defendants' turnouts and/or Class B foam did not contain an adequate warning or caution statement, which was necessary.

226. The Firefighter Plaintiffs were unaware of the defective and unreasonably dangerous condition of Defendants' products at a time when such products were being used for the purposes for which they were intended, and the Firefighter Plaintiffs were exposed to PFAS released from the Defendants' turnouts and/or Class B foam.

227. The Firefighter Plaintiffs did not and could not have known that the use of turnouts and/or Class B foam in the ordinary course of performing their duties as firefighters could be hazardous to their health, bio-accumulate in the blood, and cause serious health effects, including cancer.

228. Defendants knew that the use of turnouts and/or Class B foam, even when used as instructed by Defendants, subjected the Firefighter Plaintiffs and others to a substantial risk of harm and yet, failed to adequately warn the Firefighter Plaintiffs, the EPA or the public.

229. As a result of their inadequate warnings, Defendants' turnouts and/or Class B foam

were defective and unreasonably dangerous when they left the possession and/or control of Defendants, were distributed by Defendants, and used or worn by the Firefighter Plaintiffs.

230. The lack of adequate and sufficient warnings was a substantial factor in causing the Firefighter Plaintiffs' harm and injuries, as described herein.

231. As a result of Defendants' failure to provide adequate and sufficient warnings, Defendants are strictly liable in damages to the Firefighter Plaintiffs.

232. As a direct and proximate result of the foregoing acts and omissions, the Firefighter Plaintiffs suffered the injuries and damages described herein.

233. Defendants acted with willful or conscious disregard for the rights, health, and safety of the Firefighter Plaintiffs, as described herein, thereby entitling the Firefighter Plaintiffs to an award of punitive damages.

THIRD CAUSE OF ACTION

NEGLIGENCE

234. This cause of action is asserted against all Defendants on behalf of all of the Firefighter Plaintiffs.

235. The Firefighter Plaintiffs incorporate by reference all prior paragraphs of this complaint as though fully set forth herein.

236. Defendants owed a duty of care towards the Firefighter Plaintiffs that was commensurate with the inherently dangerous, harmful, injurious, bio-persistent, environmentally-persistent, toxic, and bio-accumulative nature of Class B foam and turnouts containing PFAS or PFAS-containing materials.

237. Defendants had a duty to exercise reasonable care in the design, research, testing, manufacture, marketing, formulation, supply, promotion, sale, labeling, training of users, production of information materials, use and/or distribution of Class B foam and/or turnouts into the stream of commerce, including a duty of care to ensure the PFAS did not infiltrate, persist in, accumulate in the blood and/or bodies of the Firefighter Plaintiffs and including a duty to assure their products would not cause users to suffer unreasonable, dangerous side effects.

238. Defendants had a duty to exercise reasonable care to ensure that Class B foam and/or

turnouts were manufactured, marketed, and sold in such a way as to ensure that the end users of Class B foam and/or turnouts were aware of the potential harm PFAS can cause to human health, and were advised to use it in such a way that would not be hazardous to their health.

239. Defendants had a duty to warn of the hazards associated with PFAS and PFAS-containing materials and were in the best position to provide adequate instructions, proper labeling, and sufficient warnings about the Class B foam and/or turnouts. However, Defendants knowingly and intentionally failed to do so.

240. Defendants failed to exercise ordinary care in the designing, researching, testing, manufacturing, formulating, marketing, testing, promotion, supply, sale, and/or distribution of their PFAS chemicals and PFAS-containing products in the regular course of business, in that Defendants knew or should have known that use and exposure to PFAS and PFAS-containing materials was hazardous to human health and created a high risk of unreasonable, dangerous side effects, including but not limited to severe personal injuries, as described herein.

241. Defendants also knew or should have known that the manner in which they were manufacturing, marketing, distributing, and selling Class B foam and/or turnouts containing PFAS or PFAS-containing materials was hazardous to human health, bio-accumulated in the blood, and caused serious health effects, including cancer.

242. Defendants negligently and deceptively underreported, underestimated, downplayed the serious health dangers of the Class B foam and/or turnouts products.

243. Defendants negligently, carelessly and recklessly recommended application and disposal techniques for PFAS and/or for products containing PFAS that directly and proximately caused harm to the Firefighter Plaintiffs.

244. Defendants knew or should have known that firefighters working with and using Class B foam and/or turnouts products would be exposed to PFAS.

245. At all times material, the Firefighter Plaintiffs inhaled, ingested and/or absorbed dermally hazardous PFAS contaminants released from the Defendants' Class B foam and/or turnouts.

246. The Firefighter Plaintiffs' exposure to Defendant's Class B foam and/or turnouts, which were connected to and incidental to Defendants' manufacture, design, sale, supply and/or

distribution of its PFAS-containing products, was harmful and substantially increased the risk of injuries to the Firefighter Plaintiffs, and did cause injuries to the Firefighter Plaintiffs.

247. Defendants knew or should have known that the manner in which they were manufacturing, marketing, distributing and selling Class B foam and/or turnouts containing PFAS or PFAS-containing materials would result in harm to the Firefighter Plaintiffs as a result of using Class B foam and/or turnouts in the ordinary course of performing the Firefighter Plaintiffs' duties as firefighters.

248. Defendants knew, foresaw, anticipated, and/or should have foreseen, anticipated, and/or known that the design, engineering, manufacture, fabrication, sale, release, handling, use, and/or distribution of PFAS or PFAS-containing materials in Class B foam and turnouts, and/or Defendants' other acts and/or omissions as described in this complaint, could likely result in PFAS exposure to the Firefighter Plaintiffs, the persistence and accumulation of toxic and harmful PFAS in their blood and/or bodies, and cause injuries to the Firefighter Plaintiffs as herein alleged.

249. Despite knowing, anticipating, and/or foreseeing the bio-persistent, bio- accumulative, toxic, and/or otherwise harmful and/or injurious nature of PFAS materials, Defendants, their agents, servants, and/or employees, committed negligent acts and/or omissions that resulted in PFAS exposure to the Firefighter Plaintiffs, the persistence and accumulation of toxic and harmful PFAS in their blood and/or bodies, and caused injuries to the Firefighter Plaintiffs as herein alleged.

250. Defendants, through their acts and/or omissions as described in this complaint, breached their duties to the Firefighter Plaintiffs.

251. It was reasonably foreseeable to Defendants that the Firefighter Plaintiffs would likely suffer the injuries and harm described in this complaint by virtue of Defendants' breach of their duty and failure to exercise ordinary care, as described herein.

252. As a direct and proximate result of the foregoing acts and omissions, the Firefighter Plaintiffs suffered the injuries described herein, which are permanent and lasting in nature, include physical pain and mental anguish, the need for lifelong medical treatment, monitoring, and/or medications. But for Defendants' negligent acts and/or omissions, the Firefighter Plaintiffs would not have been injured or harmed.

253. Defendants acted with willful or conscious disregard for the rights, health, and safety of the Firefighter Plaintiffs, as described herein, thereby entitling the Firefighter Plaintiffs to an award of punitive damages.

FOURTH CAUSE OF ACTION

LOSS OF CONSORTIUM

254. This cause of action is asserted against all Defendants on behalf of all of the Spouse Plaintiffs.

255. The Spouse Plaintiffs incorporate by reference all prior paragraphs of this complaint, as though fully set forth herein.

256. At all times relevant to this action, the following Plaintiffs were and are now lawfully married:

a. Firefighter Plaintiff Ken Allen and Spouse Plaintiff Pesha Perlsweig;

b. Firefighter Plaintiff Chuck Gluck and Spouse Plaintiff Susan Gluck; and

c. Firefighter Plaintiff Don Jonasson and Spouse Plaintiff Fran Jonasson.

257. As alleged above, and as a result of the conduct of the Defendants, Firefighter Plaintiffs sustained severe and permanent injuries and damages.

258. As a proximate result of their husbands' injuries sustained from the exposure and use of Class B foam and/or turnouts in the ordinary course of performing their firefighting duties, the Spouse Plaintiffs were deprived of love, companionship, comfort, care, assistance, protection, affection, society, moral support, sexual relations and conjugal fellowship, during their husbands' illnesses, treatments and recoveries, which deprivation has caused, continues to cause, and in the future is expected to cause each of the Spouse Plaintiffs emotional distress; loss of earning capacity; past, present, and future, and other injuries – the full extent of which has not yet been ascertained, but which will be stated according to proof at trial.

259. As a further direct and proximate result of the aforesaid conduct of Defendants, each of the Spouse Plaintiffs has sustained a loss of consortium, love, society, comfort and affection, and has thereby sustained pecuniary losses, which losses will be stated according to proof at trial.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs respectfully prays that this Court grant the following relief:

(1) Compensatory damages, including but not limited to, pain, suffering, emotional distress, loss of enjoyment of life, and other non-economic damages in an amount according to proof at time of trial;

(2) Compensatory damages for future damages, including but not limited to Plaintiffs' pain and suffering and for severe permanent personal injuries sustained by the Firefighter Plaintiffs, including for future health care costs, medical monitoring, and/or economic loss.

(3) Economic damages including but not limited to medical expenses, out of pocket expenses, lost earnings and other economic damages in an amount to be determined at trial;

(4) Punitive and/or exemplary damages for the wanton, willful, fraudulent, and reckless acts of the Defendants, who demonstrated a conscious disregard and reckless indifference for the safety and welfare of the public in general and of the Plaintiffs in particular, in an amount sufficient to punish Defendants and deter future similar conduct, to the extent allowed by applicable law;

(5) Pre-judgment and post-judgment interest, at the legal rate, on all amounts claimed;

(6) Attorneys' fees and costs pursuant to C.C.P. § 1021.5 and/or as permitted by law;

(7) For equitable and injunctive relief, as necessary, to ensure that Defendants refrain from continuing to harm others; and

(8) Any such further relief as this Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiffs hereby demand a jury trial for each cause of action for which they are entitled to a jury trial.

DATED: March 1, 2021

PRITZKER LEVINE LLP

By: _____

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