



October 30, 2017

Alan D. Miller  
Editor  
The Columbus Dispatch  
62 E. Broad Street  
Columbus, OH 43215

Dear Mr. Miller:

Lion has been committed to the safety of firefighters and emergency first responders for over 46 years, providing National Fire Protection (NFPA) standard 1971-compliant turnout gear designed for their protection, mobility, and comfort.

We were surprised to see that the Columbus Dispatch posted a October 29, 2017 story by Earl Rinehart with the headline “Lawyer: Firefighters’ gear may be hazardous.” Mr. Rinehart’s story appears to be based solely on one class action attorney’s false statement that firefighter gear is treated or made with chemicals known as perfluorooctanic acid (“PFOA”) or perfluorooctanesulfonic acid (“PFOS”), and suggesting that firefighter cancers may be attributable to their turnout gear.

In response to the attorney’s false claim and your newspaper’s story based on his claim, we would like to make sure you and your newspaper are aware that Lion’s turn-out gear is not treated or made with these chemicals. PFOAs and PFOSs have never been components of Lion’s turn-out gear, either as a coating or as a textile. All textiles we use are woven or knit with technical fibers that are engineered to be heat, flame and abrasion resistant, some of which are treated with a PTFE durable water repellent finish in order to protect firefighters’ turnout gear against soaking up water. A second key component material in turnout gear is an expanded PTFE or polyurethane moisture barrier polymer film designed to protect the firefighter from heat or contaminated water, AFFF foam, battery acid, hydraulic fluid, gasoline, and chlorine. We believe the attorney’s misunderstanding, as reported in your article, derives from the textile industry’s past use of PFOA as a processing aid in the complex process used to manufacture PTFE moisture barrier films and durable water repellent finishes used in many types of water repellent clothing.<sup>1</sup>

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<sup>1</sup>“PFOA and its salts have been used as emulsifiers to solubilize fluoromonomers and to facilitate their aqueous polymerization in the production of fluoropolymers such as polytetrafluoroethylene and fluoroelastomers, used as non-stick coatings on cookware, membranes for clothing that are both waterproof and breathable, electrical-wire casing, fire- and chemical-resistant tubing, and plumber’s thread-seal tape (ATSDR, 2009).” Quoted in International Agency for Research on Cancer. Perfluorooctanoic Acid. IARC Monograph 2016; 110(1), p.41.

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Although PFOA was not a component in these films and durable water repellent finishes, because these manufacturers used PFOA in their manufacturing process as a processing aid, 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.

In 2012, the German Federal Institute for Risk Assessment (BfR) reviewed studies assessing the risk of skin contact with textile products containing perfluorinated polymers used as water repellent finishes. This review concluded that even if a person has direct skin contact with such finishes over the entire skin surface of the body for 12 hours each day, 365 days a year, "the average daily uptake from garment textiles for various age groups in case of a reasonably assumed maximum exposure is far lower than the values which are assumed as threshold values for toxicological effects."<sup>2</sup>

Firefighters are not in direct skin contact with the moisture barriers while wearing their gear, and experience only a small degree of direct skin contact with the water repellent finishes when wearing and handling their turn out gear. Thus, even if trace amounts of PFOA residue existed on these finishes, the exposure would be minimal. Again, the data demonstrates that even full contact over the entire skin surface of the body for 12 hours a day, 365 days a year presents no health risk.

In the past two years, our suppliers have been in the process of phasing out the use of PFOAs in their manufacture of these films and finishes in response to an industry-wide movement to reduce the environmental impact of the chemicals at their manufacturing facilities and in the surrounding communities, not because any possible residual trace amounts on the finished gear posed any health risk.

Lion's firefighter turnout gear is rigorously tested to meet the stringent safety requirements of the NFPA 1971 standard. This standard is promulgated, with public input, by a broad-based committee made up of representatives from the firefighters' union, fire departments, independent testing laboratories, independent special experts from academia, as well as manufacturers. The NFPA 1971 standard for firefighter personal protective clothing includes a large number of safety tests that balance the competing factors of safety, comfort, durability. The 2017 edition of the Standard NFPA 1971 is the culmination of years of research and debate incorporated into minimum requirements for protection against hazardous environments. Heat stress remains the

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<sup>2</sup> Bundesinstitut für Risikobewertung. Introduction to the problems surrounding garment textiles. Updated FfR Opinion No. 041/2012, 6 July 2012.

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primary cause of fireground deaths and Lion has designed its gear to reduce heat stress as much as possible without sacrificing protection.

It is irresponsible to publish false statements implying that turnout gear is unsafe because it is allegedly made with PFOA or PFOS. False statements about Lion's turnout gear have the potential to put at risk the health and safety of firefighters and the public by creating fear and mistrust about the safety and proper use of the protective equipment that allows firefighters to enter extremely hostile environments and save lives each and every day.

We, as a part of the fire protective equipment industry, are concerned and saddened by the undeniable scientific evidence that firefighters have elevated cancer risks. The research is indicating that it is highly likely that this elevated risk is caused by exposure to large amounts of hazardous carcinogenic substances produced by fires in the course of regular structural firefighting. A new study by the University of Ottawa published just last week in the journal Environmental Science and Technology further supports the direct link between elevated levels of toxic chemicals, including polycyclic aromatic hydrocarbons, in firefighters' blood after a fire.<sup>3</sup> However, the elevated risk derives from the hazardous substances produced by the fire, not the turn out gear that protects firefighters.

Because Mr. Rinehart's story is based solely on a demonstratively false statement by one class action attorney, we believe that your paper should publish a retraction of Mr. Rinehart's story or an additional story reporting on the science that demonstrates the baselessness of the attorney's claim.

Best Regards,



Stephen A. Schwartz  
President  
Lion Group, Inc.

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<sup>3</sup> Jennifer L. A. Keir, Umme S. Akhtar, David M. J. Matschke, Tracy L. Kirkham, Hing Man Chan, Pierre Ayotte, Paul A. White, and Jules M. Blais Elevated Exposures to Polycyclic Aromatic Hydrocarbons and Other Organic Mutagens in Ottawa Firefighters Participating in Emergency, On-Shift Fire Suppression. J Environ. Sci. Technol., Article ASAP. (2017)