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Mr. John Winchester, PE
Sugar Loaf Fire Protection District
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Boulder, CO 80302
303-442-1050

Hello John,

Long-term fire retardants and Class A fire foams listed on the Forest Service's Qualified Products List (QPL) do not, and have never, contained PFC's. The basic make-up of both classes of products have remained relatively unchanged since their use began (1960's for retardant, early/mid 1980's for foam).

We (Wildland Fire Chemical Systems) try to make a clear distinction between fire retardants (those used on wildland fire) and flame retardants. Flame retardants such as those found in furniture, carpeting, non-stick cookware, etc. do contain fluorinated compounds. Long-term (LT) fire retardants, on the other hand, use ammonium phosphates (fertilizers) as the active ingredient that slows or stops the fire. A typical load of LT fire retardant, delivered to the fire, contains roughly 85% water, 10% fertilizer (ammonium phosphates), and the remaining 5% are things like coloring, thickeners (typically xanthan gum), and minor ingredients such as corrosion inhibitors, stabilizers, etc. Long-term fire retardant remains effective even after the water evaporates, relying on chemical interactions between the fertilizer salts and the heat of the fire.

The Class A foams are essentially concentrated detergents. They contain ingredients that cause the product to foam and also contain ingredients called surfactants that break down the surface tension of water, increasing its wetting ability. The ingredients are basically the same as those found in dishwashing detergents, only the products are more concentrated.

More information on the three categories of fire chemicals used by the federal wildland agencies, including environmental and health and safety information can be found on our website: <https://www.fs.fed.us/rm/fire/wfcs/index.htm>

If you have any questions, you may contact me by phone at 406-329-4859 or email at szylstra@fs.fed.us.

Sincerely,

Shirley Zylstra

SHIRLEY ZYLSTRA
Program Leader
Wildland Fire Chemicals and Aerial Delivery Systems

