

Can firefighting foam be “eco-friendly”?

A perfect example of this is the current marketing of fluorine-free foams as environmentally friendly alternatives to AFFF despite the fact that they are significantly higher in aquatic toxicity, one of the most important environmental indicators for foam. Should you really market a product that contains solvents, foaming agents, and increased concentrations of hydrocarbon surfactants as environmentally friendly?

The main environmental benefit of AFFF agents is that they extinguish flammable liquid fires better than any product currently available. This minimises the environmental impact of the fire by putting it out quickly while using the smallest amount of foam and water possible. Whether you use AFFF or fluorine-free foam to extinguish a fire, the clean-up requirements are generally the same. The only difference if you use fluorine-free foam is that it will take you longer to put out the fire, and you are likely to have about three times as much run-off to clean up.

Because of their effectiveness, AFFF agents allow for the use of non-aspirating discharge devices such as variable pattern water fog nozzles, which provide two very important safety factors for firefighters. First, since none of the available energy of the system needs to be utilised by an air aspirating venturi at the discharge device, the range from that device will be maximised. Distance from the fire is always a key to firefighter safety. Second, when using a variable pattern water fog nozzle, the firefighter has the ability to change his stream pattern to a full fog for personnel protection against a thermal event.

Fluorine-free foams are vulnerable to excessive fuel pickup into the foam blanket during application, which can result in dangerous and sudden flashbacks for firefighters and rapid re-involvement of the fire. In order to overcome this problem, they rely upon having a good enough foam blanket in terms of expansion ratio and drainage rate. This can necessitate the use of air aspirating branch pipes or nozzles in order to achieve the necessary level of foam quality, which requires the firefighter to get closer to the fire and is a step backwards for safety.

The fire protection industry can do something right now that would provide a real benefit to the environment without compromising its ability to extinguish fires or protect firefighters. Make sure the phaseout of PFOS-based foams is fully implemented. These foams were manufactured primarily by 3M prior to 2002 and contain chemicals that are considered to be persistent, bioaccumulative and toxic. Although they are banned from production in most countries, there are still significant quantities of PFOS-based foam in service.

Under a 2006 Commission Directive (2006/122/EC), foams containing PFOS must be removed from service in all 27 countries of the European Union by June 27, 2011. That deadline is less than a year away and we are concerned that not enough is being done to notify and prepare foams users for this requirement. If the fire protection industry is going to meet this important deadline, users in Europe should already be in the process of identifying their PFOS foam stocks and making

Not according to the US Federal Trade Commission, which released new guidelines last month that advise business on how to market the environmental advantages of their products. The newly revised “Green Guides” specifically warn against use of the terms “environmentally friendly” and “eco-friendly” because such claims are impossible to substantiate, unlikely to be true, and suggest products have far-reaching environmental benefits that no product is likely to have. Tom Cortina, Executive Director, Fire Fighting Foam Coalition, writes.

arrangements to replace them with modern, telomer-based AFFF agents.

Unfortunately, we continue to see articles that contain misleading and in some cases false information about the environmental impacts and future regulation of AFFF. In order to counteract this type of marketing, we feel compelled to present some basic facts:

- Telomer-based fluorosurfactant foams such as AFFF, FP, and FFFP are not banned from use. They are accepted for emergency use throughout the EU. We are aware of no pending legislation to regulate telomer-based fluorosurfactant foams in Europe, Canada, Japan, or the United States.
- The C6-based fluorosurfactants that have been the predominant fluorochemicals used in telomer-based AFFF for the last 25 years are low in toxicity and not considered to be bioaccumulative or biopersistent. New products based on C6 telomer chemistry are currently being approved for production and use by regulatory agencies around the world because they are considered to be safer for the environment than C8 and above.

AFFF and fluorochemical manufacturers have worked closely with environmental authorities over the past decade, and are currently doing the research and testing necessary to incorporate into their AFFF formulations the new fluorochemicals that are being developed to comply with global stewardship programs. This work will ensure that safe and effective AFFF agents will continue to be available to fight flammable liquid fires in military, aircraft, industrial, and municipal settings.

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