



# AFFF Update . . .

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*Fire Fighting Foam Coalition*

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## **3M The Only Manufacturer to End AFFF Production**

It's important to remember that 3M is the only manufacturer that has stopped production of its aqueous film-forming foam (AFFF) fire fighting agents. This is because the AFFF produced by 3M contains PFOS, a chemical the government considers to have both environmental and toxicological concerns. Other AFFF manufacturers, such as Kidde, Ansul, and Buckeye, whose products do not contain PFOS, will continue to produce AFFF for both commercial and military applications.

3M used a unique process to manufacture the chemical components of the fluorosurfactants contained in its AFFF formulations. The process is called electrochemical fluorination, and fluorosurfactants produced by this process both contain and degrade into a chemical known as PFOS (perfluorooctyl sulfonate). The U.S. Environmental Protection Agency (EPA) has classified PFOS as persistent, bioaccumulative, and toxic (PBT).

All other manufacturers use a process called telomerization to produce the chemical components of the fluorosurfactants contained in their AFFF. Chemicals produced by this process are generally referred to as telomers. Telomer-based AFFF agents do not contain or degrade into PFOS. In addition, they meet or exceed the fire suppression effectiveness of PFOS-based AFFF and yet contain 30-60% less fluorine.

PFOS-based chemicals have been produced since the 1950s for use in paper and packaging, textile and carpet treatment, additives and coatings, industrial surfactants, and the surfactants used in fire fighting foams (use in AFFF was about 3% of total production in 2000). In recent years PFOS has been discovered in the blood of workers handling the chemical, the general population and in wildlife such as eagles, wild birds and fish. The fact that PFOS began showing up in the blood of both people and animals combined with EPA classifying the chemical as PBT contributed to 3M's decision to voluntarily end production of most of its

PFOS-based products, including AFFF (by year-end 2002). EPA is currently evaluating the potential environmental impact of telomers since they are the most likely replacement for PFOS in many applications and are a somewhat related chemistry. Working in cooperation with EPA, international telomer manufacturers have undertaken a multi-year testing program to study the kinetics and metabolism, environmental fate and effects, and toxicity of telomers. In addition, AFFF manufacturers have formed the Fire Fighting Foam Coalition (FFFC) to work with EPA and other relevant organizations on all issues related to the environmental acceptability of fire fighting foams.

So despite 3M's actions and rumors to the contrary, AFFF agents that meet all commercial and military standards and specifications and which do not contain PFOS or any other chemical considered by EPA to be PBT will continue to be produced.

## **EPA Publishes PFOS Significant New Use Rules**

On March 11, EPA published final and proposed rules that are intended to "close the door" on the future manufacture and import of PFOS-related chemicals. The final rule covers 13 chemicals and the proposed rule covers 75 chemicals, all of which are referred to by EPA as PFAS (perfluoroalkyl sulfonates). The rules would make any new manufacture or importation of these 88 chemicals a "significant new use," which requires manufacturers or importers to notify EPA 90 days before producing or importing them. This gives EPA time to evaluate the intended use of the chemical and possibly prohibit the manufacture or import before it occurs. The rules would not affect products already manufactured or imported that contain any of these chemicals.

None of the 88 chemicals listed in the rules are contained in telomer-based AFFF products, therefore, these rules will have no impact of the continued production or use of telomer-based AFFF.

For the 75 chemicals covered by the proposed rule, EPA proposes exemptions for certain uses that the Agency considers to be low volume, for which alternatives are not available, and those that present minimal environmental exposure risk. These include use as an anticorrosion additive in aviation hydraulic fluid, use as a photo acid generator or surfactant, use in a surface tension or static discharge control coating, and use as a chemical intermediate to produce specific substances for specific uses. An exemption was not proposed for use as a surfactant in AFFF because no petition was made to keep them in commerce, and acceptable alternatives, namely telomer-based AFFF agents, are readily available.

## **EPA Releases Draft Hazard Assessment of PFOA**

On February 20 EPA published a draft hazard assessment of PFOA (perfluorooctanoic acid), a chemical that is also produced primarily by the electrochemical fluorination process. PFOA and its salts are mainly used as an industrial process aid in the manufacture of fluoropolymers. The draft hazard assessment reviews existing data (through July 2001) on the biodegradation, bioaccumulation, environmental fate and effects, and toxicity of PFOA. Although EPA concludes that PFOA “is persistent” and “may bioaccumulate ...in the same manner as PFOS does,” it does not officially classify PFOA as PBT. PFOA has been found in some human blood samples, but at much lower levels than PFOS.

PFOA is sometimes mentioned in relation to AFFF because 3M’s PFOS-based AFFF agents also contained PFOA. Telomer-based AFFF agents do not contain any PFOA-based products. One of the issues that is being investigated as part of the multi-year testing program is whether telomers can break down in the environment into PFOA or similar chemicals, and to what degree and under what conditions this might occur. EPA will continue to evaluate new data on the environmental impacts of PFOA and is likely to update this hazard assessment in the future.

## **Membership In FFFC**

Would you like to receive the kind of information contained in this newsletter on a regular basis? Would you like to receive regular updates on issues related to the environmental acceptability of fire fighting foams? Consider membership in the Fire Fighting Foam Coalition (FFFC).

FFFC is a not-for-profit trade association whose members are manufacturers, distributors and users of aqueous film-forming foam (AFFF) fire fighting agents and their chemical components. The Coalition represents AFFF industry interests on all issues related to the environmental acceptability of fire fighting foams. FFFC also helps to ensure that accurate information about PFOS alternatives, including telomer-based products, is disseminated to appropriate audiences. The Coalition is a clearinghouse for industry science reviews, supports the development of industry positions, and interacts on behalf of members with EPA and other relevant organizations.

FFFC will:

- Support users of AFFF by serving as a single source for accurate, balanced information on environment related questions.
- Establish a dialog with EPA and other regulatory authorities to ensure that accurate information about PFOS alternatives, including telomer-based products, is disseminated into the marketplace.
- Participate in EPA’s ongoing review of PFOA and telomers as they relate to AFFF.
- Establish a dialog with DoD to ensure that the differences between AFFF agents are well understood.
- Serve as a focal point for information on the development and approval of environmentally acceptable and effective alternatives.

Membership in FFFC is open to any company or organization interested in AFFF-related issues including users, distributors, equipment manufacturers, agent manufacturers, surfactant manufacturers, and telomer producers. Membership by AFFF users is encouraged.

For more information please contact the Fire Fighting Foam Coalition at 703-524-6636 or [www.ffc.org](http://www.ffc.org)