
From: John P. Farley
To: Fletcher, Steven G CIV NSWCCD PHIL, PA
CC: Hunstad, Mary P CIV NAVSEA HQ, SEA 05; Berchtold, Brian D CIV NAVSEA HQ, NAVSEA 05; Tweedie, Scott D CIV NSWCCD Philadelphia, 6680
Sent: 9/27/2013 5:14:30 PM
Subject: RE: UNDS AFFF PREAMBLE LANGUAGE QUESTION_RESPONSE

Steve:

In response to your first question, Fire-Ade is not fluorine-free. In response to the UNDS AFFF preamble, BOTH statements (EPA and Navy) are wrong and confuse two totally different issues:

(1) Aqueous Film Forming Foam (AFFF) must, by definition, forms an aqueous layer between the fuel and the foam blanket. In order to get a thin water layer to float on top of the fuel, the surface tension properties of the water must be changed and that is accomplished with the addition of the fluorosurfactant in the AFFF formulation. So any non-fluorinated foam cannot be classified as AFFF. A non-fluorinated foam that is used as an AFFF alternative should be classified as a Class B foam since it does not provide an aqueous film.

(2) The currently used MILSPEC AFFF formulations use a non-PFOS fluorosurfactant that have a six-carbon tail that also includes an eight-carbon tail impurity on the surfactant molecule. In accordance with the current EPA PFOA Stewardship Program, the AFFF foam manufacturers are in the process of changing their fluorosurfactants to eliminate and/or reduce the eight-carbon tail impurities to help lessen their AFFF's environmental persistence problem.

That said I will try to answer your specific questions:

QUESTION ONE. Both statements are technically wrong as written

"When a non-fluorinated Class B foam is used as an AFFF alternative its long-term environmental persistence will be reduced but its short-term toxicity to aquatic life forms, particularly fish may increase in comparison to AFFF or fluoroprotein foam"

"When a reformulated AFFF is used, which lowers the fluorosurfactant eight-carbon tail impurity on the surfactant molecule its long-term environmental persistence will be reduced in comparison to AFFF and fluoroprotein foam but its fire extinguishing and burnback performance will have to be revalidated to remain on the MILSPEC qualified products listing."

QUESTION TWO. As noted both statements are technically not correct.

QUESTION THREE. NRL has been testing some alternative AFFF formulations but the fluorine-free formulations have not been able to meet the AFFF MIL-F-24385F fire extinguishing standard and at this time are not a viable AFFF alternative for U.S. Navy use.

Please let me know if you have any further questions.

R/ John

-----Original Message-----

From: Fletcher, Steven G CIV NSWCCD PHIL, PA
[mailto:steven.g.fletcher@navy.mil]
Sent: Thursday, September 26, 2013 7:59 AM
To: John P. Farley

US00008010

Subject: FW: UNDS AFFF PREAMBLE LANGUAGE QUESTION

John,

Can you look at the questions below? Is Fireade fluorine-free?

v/r,
Steve

-----Original Message-----

From: Smith, Gordon CIV SEA 05
Sent: Tuesday, September 24, 2013 17:04
To: Fletcher, Steven G CIV NSWCCD PHIL, PA
Cc: Aulson, Michelle J CIV NSWCCD West Bethesda, 6330; Hunstad, Mary P CIV NAVSEA HQ, SEA 05; McGraw, Peter S CIV NAVSEA 05
Subject: UNDS AFFF PREAMBLE LANGUAGE QUESTION

Steve,

EPA provided an edit to our proposed Standards and Preamble. The preamble describes the logic behind the standard. Within the preamble language that describes the logic behind the AFFF standard, EPA is considering the following language change:

Navy version:" When a non-fluorinated AFFF is used it has a lower concentration of perfluorinated surfactants or contains non-fluorinated surfactants, which are less persistent than- AFFF or fluoroprotein foam."

EPA changed to: "In some instances, a non-fluorinated AFFF is used and it has a lower concentration of perfluorinated surfactants or contains non-fluorinated surfactants, which are less persistent than AFFF or fluoroprotein foam."

The difference between these two sentences is small. The first sentence infers that we may use non-fluorinated AFFF. The second sentences states that we do use non-fluorinated AFFF. Based on what I remember, EPA's statement that non-fluorinated AFFF is used is not accurate for Armed Forces Vessels. (I think that we all use the Navy Spec and there are no non-fluorinated AFFF materials approved, but perhaps I am wrong). I have three questions:

1. Is the EPA statement true or false for Navy or any other services you are aware of?
2. IF it is false, do we care or could we live with the change?
3. Have we, or are we, testing any non-fluorinated AFFF on any of our ships, this making the statement technically true?

Let me know what your thoughts are. I will be at Navy yard tomorrow, but you can reach me on my cell phone at 571-239-3524.

Gordon

US00008011