

---

**From:** Fletcher, Steven G CIV NAVSEA HQ, SEA 05  
**To:** jillana.stauffer@csra.com  
**Sent:** 3/8/2017 7:17:08 PM  
**Subject:** FW: AFFF Ingredients  
**Attachments:** Phos-Chek-3pct-AFFF-MS-AQUAFILM-AF-3MSVersion-1.pdf

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

From: Katherine M. Hinnant [mailto:katherine.hinnant@nrl.navy.mil]  
Sent: Wednesday, March 08, 2017 1:44 PM  
To: Fletcher, Steven G CIV NAVSEA HQ, SEA 05  
Subject: RE: AFFF Ingredients

Hey Steve,

Sorry for the late reply, but this is a tricky question to answer.

The exact ingredients are different among each company with the basics being: a fluorinated surfactant, a mixture of hydrocarbon surfactants, a solvent, and water.

Companies use different surfactants and different combinations of surfactants and solvents. None of this information is provided by companies because it is their proprietary formula, researchers have only been able to guess at what is really in them.

I do have a copy of a Phos-Chek report in which they list specific things found in Phos-Chek, but this would be specific to only their foam and materials different for other companies.

Katherine Hinnant  
Chemical Engineer, Chemistry Division  
U.S. Naval Research Laboratory  
T 202.767.3583  
www.nrl.navy.mil

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

From: Fletcher, Steven G CIV NAVSEA HQ, SEA 05  
[mailto:steven.g.fletcher@navy.mil]  
Sent: Tuesday, March 7, 2017 8:03 AM  
To: Katherine M. Hinnant <katherine.hinnant@nrl.navy.mil>  
Subject: AFFF Ingredients

Katie,

Can you give me a list of the known chemicals in Milspec AFFF?

v/r,

Steve Fletcher, P.E.  
Fire Protection Engineer  
NAVSEA HQ, SEA 05P5  
202-781-0932