



**Cottrell Associates, Inc.**  
**National Foam Factory Reps Since 1988**

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## **Dealer/User Notes III - NF Class B Fluorine Free Foam Profiles - Rev 4** **See User List On Page 2**

*Note: Fluorine Free is not a technically correct term since proportioning and or compounding water may contain fluorine. NF prefer to say that fluorine compounds are not intentionally added components.*

*Synthetic Fluorine Free Foam (SFFF) and Alcohol Resistant - Synthetic Fluorine Free Foam (AR-SFFF) are identity terms used by NFPA and Underwriters Laboratories. In some circles is also known as FFF (fluorine free foam).*

**Universal F<sup>3</sup> Green 3% AR-SFFF** This product is U.L. listed and NFPA 11 compliant. It is intended for fuel in-depth (storage tanks) and spills; is best for FD Haz-mat operations particularly where foam residence time on high vapor pressure fuels (gasoline) are likely.

Universal F<sup>3</sup> Green 3% is the most robust AR-SFFF in the industry in terms of wide ranging engineered systems approval and applications for gasoline/ ethanol blends, polar solvents and liquid haz-mats in general. Residence time is 2 to 3 hrs depending on application appliance and of course, fuel temperature. It is viscosity friendly for all FD systems to include foam eductors. Like all UL listed AR-SFFF foams, aerating from 5 to 10:1 will give optimum performance. The closer to 10:1 the better in terms of performance and long residence time. Universal F<sup>3</sup> Green 3% is suitable for wetting and soaking class A materials at 1/2 to 1%.

### **Muni F<sup>3</sup> Green PLUS 3% AR-SFFF**

This product is designed for shallow spill fires 1 to 2" in depth. Is UL listed for the range of fuels FD's are most likely to encounter, to include gasoline/ ethanol blends and straight ethanol. It's viscosity friendly for all systems to include foam eductors. Has residence time (1/4 life) of +\~90 minutes when aerated. Like all UL listed AR-SFFF foams, aerating from 5 to 10:1 will give optimum performance. The closer to 10:1 the better in terms of performance and long residence time. Is suitable for wetting and soaking class A materials at 1/2 to 1%. Muni F<sup>3</sup> Green PLUS (MG+) is about 20% less expensive, however residence time is significantly less than Universal F<sup>3</sup> Green.

**Muni F<sup>3</sup> Green 3%** is a NFPA 11 compliant air-foam for use on hydrocarbons fuel spills only. I.e., diesel, crude, home fuel oil - no alcohols. Is fresh water use only. Not UL listed for alcohol or gasoline/alcohol blends. Is however, NFPA 11 compliant and price competition for NFPA 18 wetting agents such as: FireAde®, NovaCool®, and F500®; none of which have UL alcohol or ASTM/UL class D approvals.

All NF foams discussed in this primer are Green Screen Certified, free of PFAS.

Universal F<sup>3</sup> Green 3% is certified free of 1,4 dioxane. CA Prop 65 declaration removed from SDS in August 2022.

*Final notes:*

- 1. Foam residence time specification is critical for Fire Department Haz-Mat operations.*
- 2. Since terrain and environmental circumstances are quite variable when used for un-ignited fuel spills or post fire security its good practice to use a reliable gas meter to determine reapplication frequency. Otherwise, when fuel odor returns it's time to replace the foam blanket or locate fuel that may have escaped initial foam applications.*
- 3. Minimum UL application rates on hydrocarbon fuels for **ALL** synthetic foams are 0.16 gpm sq/ft.*

**Major National Foam AR-SFFF (F3) users:**

Anne Arundel County, MD  
Baltimore City, MD  
Baltimore County MD Fire Rescue  
Benton Harbor, MI  
Boise, ID - In process  
Broward County, FL (BSO)  
Buffalo, NY  
Chesapeake, Norfolk VA Foam Task Force  
Chesterfield, VA  
Denver, CO & Metro Depts.  
Detroit, MI area Down River Haz-Mat  
Fairfax County, VA  
Fayetteville NC - In process  
FDNY & NY State DHS Foam Task Force  
Fort Wayne, IN  
Hillsborough County, FL (Tampa area)  
Indianapolis, IN  
Jacksonville, Duval County, FL  
Los Angeles City FD  
Los Angeles County  
Long Beach, CA  
Madison, WI  
Middlesex County, NJ Foam Task Force  
Montgomery County, MD  
Norfolk, Hampton Roads Area, VA  
Nashua, NH

Orlando, FL  
Philadelphia FD and eastern PA Foam Task Force  
Richmond, VA and Central VA Foam Task Force  
Sacramento, CA area  
Spokane, WA  
Springfield, MA  
State of Connecticut regional hazmat assets  
State of Rhode Island - All agencies  
Toledo FD, OH  
Virginia Beach, VA

**Shell Oil - DuPont Global - Marathon Oil - Phillips Refining - Buckeye - Chevron Global - Exxon Mobil Global - ADM - General Electric - Anheuser Bush.**

*The above industrial users have settled on National Foam Universal F<sup>3</sup> Green after internal evaluation of most, if not all competitors.<sup>3</sup>*