



# CHEMGUARD FS-818-11

CHEMGUARD FS-818-11 is a highly efficient, nonionic fluorosurfactant at 35% actives. This fluorosurfactant is soluble in tap and sea water. It has been used in combination with other fluorosurfactants (i.e. CHEMGUARD S-103A, CHEMGUARD S-103B 40%, CHEMGUARD FS-220-8, CHEMGUARD FS-220B, LODYNE® S-103A and LODYNE® K78'220B) to formulate premium AFFF agents meeting the US Military specification (Mil-F-24385F). It provides excellent performance in FFFP formulations in the presence of CHEMGUARD FS-220B. CHEMGUARD FS-818-11 is highly compatible with anionic, cationic, amphoteric and nonionic surfactants and provides high quality foam.

## Typical Properties<sup>1</sup>:

Appearance	Clear, pale yellow liquid
Composition	35% Actives, 32% Diethylene glycol monobutyl ether, 33% water
Density	1.12 g/ml at 25°C
Flash Point	66°C (150°F) Pensky-Martens, closed cup
pH	4.5 – 6.5
Boiling Point	96°C (205°F)
Stability	Store between 10° and 50°C. Some solids will separate out at temperatures below 10°C over time. If frozen or solids separate out of the product, bring it to room temperature to return product to a clear liquid. Freezing and thawing will not affect the properties or performance.

<sup>1</sup> Not for specification purposes.

## Typical surfactant properties of FS-818-11:

Distilled Water Solution	0.1% Actives	0.01% Actives	0.001% Actives
Clarity	Clear		
Equilibrium Surface Tension <sup>a</sup>	16.0 dynes/cm	17.5 dynes/cm	33.9 dynes/cm
Interfacial Tension <sup>b</sup>	5.6 dynes/cm	9.9 dynes/cm	35.2 dynes/cm
Draves Wetting <sup>c</sup>	20 sec		
Ross Miles Foam Test <sup>d</sup> , initial	180 mm		
Ross Miles Foam Test, 5 min.	170 mm		

<sup>a</sup> Wilhelmy plate technique, Kruss K-10 tensiometer

<sup>b</sup> ASTM method D-1331-56

<sup>c</sup> ASTM method D-2281-68, sinking time in minutes

<sup>d</sup> ASTM method D-1173-53 at 49 deg. C; Initial foam height and after 5 minutes.

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