

ANSULITE 3% (AFC-3A) AFFF Concentrate

Description

ANSULITE 3% (AFC-3A) AFFF (Aqueous Film-Forming Foam) Concentrate is formulated from specialty fluorochemical and hydrocarbon type surfactants along with solvents. It is transported and stored as a concentrate to provide ease of use and considerable savings in weight and volume.

It is intended for use as a 3% proportioned solution in fresh, salt or hard water. It may also be used and stored as a 3% premixed solution in fresh or potable water only. The correct proportioning or mixture ratio is 3 parts concentrate to 97 parts water.

Three fire suppressing mechanisms are in effect when using ANSULITE 3% (AFC-3A) AFFF Concentrate. First, an aqueous film is formed which works to help prevent the release of fuel vapor. Second, the foam blanket from which the film-forming liquid drains effectively excludes oxygen from the fuel surface. Third, the water content of the foam provides a cooling effect.

TYPICAL PHYSIOCHEMICAL PROPERTIES AT 77 °F (25 °C)

Appearance	Colorless to Pale Yellow Liquid
Density	1.026 g/ml ± 0.020
pH	7.0 – 8.5
Refractive Index	1.3490 ± 0.0025
Surface Tension (3% Solution)	18 ± 1 dynes/cm
Viscosity	2.9 ± 1 centistokes

Application

ANSULITE 3% (AFC-3A) AFFF Concentrate is intended for use on Class B hydrocarbon fuel fires having low water solubility such as various crude oils, gasolines, diesel fuels, aviation fuels, etc. **It is not suitable for use on fuels having appreciable water solubility (polar solvents), i.e., methyl and ethyl alcohol, acetone, and methyl ethyl ketone.** It can be used with both aspirating and non-aspirating discharge devices because of the low energy required to make it foam.

The excellent wetting characteristics make it useful in combating Class A fires as well. It can be used with dry chemical suppressing agents without regard to the order of application to provide even greater fire protection capability.



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Fire Performance

ANSULITE 3% (AFC-3A) AFFF Concentrate has been tested to Underwriters Laboratories Standard 162. Reports covering this fire performance are available on request since standards and specifications such as those cited are continuously being upgraded and changed.

Foaming Properties

When used with fresh, salt, or hard water, at the correct dilution with most conventional foam making equipment, the expansion ratio will vary depending on the performance characteristics of the equipment. Aspirating discharge devices produce expansion ratios from 6:1 to 10:1 depending primarily on type of aspirating device and flow rate. Subsurface injection is a special case where generally expansion ratios of 2:1 to 3:1 are preferred but up to 4:1 is allowed. Non-aspirating devices such as handline water fog/stream nozzles or standard sprinkler heads give expansion ratios of 2:1 to 4:1.

Proportioning

ANSULITE 3% (AFC-3A) AFFF Concentrate can be easily proportioned (at the correct dilution) using most conventional proportioning equipment such as:

1. Balanced pressure and in-line balanced pressure pumped proportioning equipment
2. Balanced pressure bladder tank proportioners
3. Around-the-pump type proportioners
4. Fixed or portable (in-line) venturi type proportioners
5. Handline nozzles with fixed induction/pickup tubes

The usable temperature range for ANSULITE 3% (AFC-3A) AFFF Concentrate with this equipment is 35 °F to 120 °F (2 °C to 49 °C).

Storage/Shelf Life

When stored in the packaging supplied (polyethylene drums or pails) or in equipment recommended by the manufacturer as part of the foam system and within the temperature limits specified, the shelf life of ANSULITE 3% (AFC-3A) AFFF Concentrate may exceed 20 years.

The factors affecting shelf life and stability for ANSULITE AFFF concentrates are discussed in detail in ANSUL® Technical Bulletin No. 54. If the product is frozen during storage or transportation, thawing will render the product completely usable. Gentle mixing after freeze-thaw cycle is recommended.

Compatibility

Refer to ANSUL Technical Bulletin No. 64 for a detailed discussion of compatibility.

Different types of foam concentrates, i.e., AFFF, protein base, etc., should not be mixed under any circumstances.

Materials of Construction Compatibility

Tests have been performed with ANSULITE 3% (AFC-3A) AFFF Concentrate verifying its compatibility with standard carbon steel “black” pipe and pipe manufactured from various stainless steel or brass compounds. Alternative pipe, fittings, and valves may be used in some cases if acceptable to the customer and/or the authority having jurisdiction. Refer to ANSUL Technical Bulletin No. 59 addressing acceptable materials of construction for use with ANSUL foam concentrates.

Galvanized pipe and fittings must not be used in areas where undiluted concentrate will contact them since corrosion will result.

Please **first** consult Tyco Fire Protection Products for specific guidelines concerning materials of construction.

Inspection

As with any fire suppressing agent, ANSULITE 3% (AFC-3A) AFFF Concentrate, whether in the concentrate or pre-mixed form, should be inspected periodically per requirements of NFPA 11 “Standard for Low-, Medium-, and High-Expansion Foam.” Annually submit samples to the manufacturer or a qualified laboratory for quality condition testing. Refer to the Field Inspection Manual (Part No. 31274) for detailed inspection procedures. An annual inspection is recommended unless unusual conditions of exposure occur such as described in ANSUL Technical Bulletin No. 54. In such cases, contact Tyco Fire Protection Products for more information.

Approvals and Listing

ANSULITE 3% (AFC-3A) AFFF Concentrate is approved, qualified under, listed or meets the requirements of the following specifications and standards:

Underwriters Laboratories Inc. – UL Standard 162

1. Foam Quality Tests
2. Class B Hydrocarbon Fuel Fire Tests
3. Foam Identification Tests
4. Tests of Shipping Containers
5. Class B Hydrocarbon Fuel Sprinkler Tests (Foam water and standard type both upright and pendent approvals)

Factory Mutual Research Corporation – Approval Guide

It is impractical to list ANSULITE 3% AFFF Concentrate with every piece of UL listed hardware. Moreover, there are numerous foam hardware components without UL listings that cannot be listed for use with any AFFF concentrate.

Many unlisted pieces of foam hardware should be similar to those listed. However, on installations where ANSULITE 3% (AFC-3A) AFFF Concentrate may be used with hardware components of significantly different types than those tested, contact Technical Services for recommendations.

Ordering Information

ANSULITE 3% (AFC-3A) Concentrate is available in pails, drums, totes, or bulk shipment.

Part No.	Description	Shipping	
		Weight	Cube
55800	Pail	45 lb	1.25 ft ³
	5 gal (19 L)	(20.4 kg)	(0.0353 m ³)
55809	Drum	495 lb	11.83 ft ³
	55 gal (208 L)	(224.5 kg)	(0.335 m ³)
431499	Tote	2465 lb	50.05 ft ³
	265 gal (1000 L)	(1118 kg)	(1.42 m ³)
26700	Bulk Order	Contact Technical Services	

Note: The converted metric values in this document are provided for dimensional reference only and do not reflect an actual measurement.

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