

ANSULITE® 3% (AFC-3A) AFFF CONCENTRATE

Data/Specifications



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 of concentrate to 97 parts of water.

Three fire extinguishment 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 \pm 0.020
pH	7.0 – 8.5
Refractive Index	1.3490 \pm 0.0025
Surface Tension (3% Solution)	18 \pm 1 dynes/cm
Viscosity	2.9 \pm 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.

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

PERFORMANCE

Fire Performance – The fire performance of ANSULITE 3% (AFC-3A) AFFF Concentrate is measured against specifications and standards such as U.S. Military Specification MIL-F-24385 **but is not on the Qualified Product List (QPL).** ANSULITE 3% (AFC-3A) AFFF Concentrate has also 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 or salt water or water of any hardness, at the correct dilution with most conventional foam making equipment, the expansion will vary depending on the performance characteristics of the equipment. Aspirating discharge devices produce expansion ratios of from 6:1 to 10:1 depending primarily on type of aspirating nozzle 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 type 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 minimum and maximum usable temperatures for ANSULITE 3% (AFC-3A) AFFF Concentrate in this equipment is 35 °F (2 °C) to 120 °F (49 °C) respectively.

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 within the temperature limits specified, the shelf life of ANSULITE 3% (AFC-3A) AFFF Concentrate is about 20-25 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. Mixing after freeze thaw cycling is recommended.

Compatibility – Certain specifications such as U.S. Military Specification MIL-F-24385 require that products placed on the Qualified Products List (QPL) for that specification demonstrate performance compatibility in all mixture proportions.

With regard to non-qualified (QPL) AFFF type concentrates, they should only be mixed in an emergency, or if the manufacturer has supporting test data to substantiate that the mixture meets the same requirements as the individual component concentrates. Refer to Ansul Technical Bulletin No. 48 for a more 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, plastic 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, Form No. F-90109, 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 ANSUL Fire Protection for specific guidelines concerning materials of construction.

Inspection – As with any fire extinguishing agent, ANSULITE 3% (AFC-3A) AFFF Concentrate, whether in the concentrate or pre-mixed form should be inspected periodically. NFPA 11 “Standard for Low Expansion Foam and Combined Agent Systems” requires that foam concentrate samples be submitted to the manufacturer or other qualified laboratory for quality condition testing at least annually. Contact ANSUL for further information on annual inspection.

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 for ANSUL to list its 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% AFFF Concentrate may be used with hardware components of significantly different types than those tested, contact ANSUL for recommendations.

ORDERING INFORMATION

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

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|-------------------|--|
| Part No. 55800 | 5 gallon pail |
| Part No. 55809 | 55 gallon drum |
| ▶ Part No. 431499 | 265 gallon tote |
| ▶ Part No. 26700 | Bulk (contact ANSUL about domestic truckload delivery) |

Shipping Weight:

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|---|
| 5 gal (19 L) pail – 45 lb (20.4 kg) |
| 55 gal (208.1 L) drum — 495 lb (224.5 kg) |
| ▶ 265 gal (1000 L) tote – 2465 lb (1118 kg) |

Cube:

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| 5 gal (19 L) pail – 1.25 ft ³ (0.0353 m ³) |
| 55 gal (208.1 L) drum – 11.83 ft ³ (0.3350 m ³) |
| ▶ 265 gal (1000 L) tote – 50.05 ft ³ (1.42 m ³) |

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