ANSUL®

EXTINGUISHING AGENT DATA SHEET

ANSULITE® PREMIUM 3% (AFC-5-A) AQUEOUS FILM-FORMING FOAM (AFFF) CONCENTRATE

DESCRIPTION

ANSULITE 3% (AFC-5-A) Premium AFFF 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 space.

It is intended for use as a 3% proportioned solution in fresh, salt or hard water. (Water hardness should not exceed 500 ppm expressed as calcium and magnesium.) 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% AFFF (AFC-5-A). 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	Clear Pale Yellow Liquid
Density	1.019 gm/ml ± .005
pH	7.0 – 8.5
Refractive Index	1.3640 ± .0010
Spreading Coefficient	5.6 ± 1.2

APPLICATION

ANSULITE 3% Premium AFFF (AFC-5-A) 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% Premium AFFF is measured against specifications and standards such as U.S. Military Specification MIL-F-24385F (latest amendment) and Underwriters Laboratories Standard UL 162 – 5th Edition. 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 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. In general the higher the flow rate the higher the expansion ratio. Thus monitors and foam chambers normally produce higher expansion ratios than foam water sprinkler heads and hand held type nozzles. 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% AFFF (AFC-5-A) concentrate can be proportioned easily 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% AFFF AFC-5-A) 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 and within the temperature limits specified, the shelf life of ANSULITE 3% AFFF AFC-5-A) is about 20-25 years. The factors affecting shelf life and stability for ANSULITE AFFF Agents 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. Upon thawing, gentle mixing to ensure a homogeneous solution is recommended.

Compatibility – Certain specifications such as U.S. Military Specification MIL-F-24385F (latest amendment) require that products placed on the Qualified Products List (QPL) for that specification demonstrate performance compatability in all mixture proportions. ANSULITE 3% AFFF (AFC-5-A) which is on the QPL for this specification is therefore compatible with any other product qualified under that specification or preceding versions of this specification.

With regard to other 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 Constructions Compatibility – Tests have been performed with ANSULITE 3% (AFC-5-A) 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, 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 Incorporated for specific guidelines concerning materials of construction.

Inspection – As with any fire extinguishing agent, ANSULITE 3% AFFF, whether in the concentrate or pre-mixed form should be inspected periodically. Please refer to the Field Inspection Manual, Ansul Part No. 31274, for the detailed procedures to perform this inspection. An annual inspection is recommended unless unusual conditions of exposure occur, such as are described in Ansul Technical Bulletin No. 54. In such cases, Ansul's recommendation should be sought.

APPROVALS AND LISTING

ANSULITE 3% AFFF concentrate is approved, qualified under, listed or meets the requirements of the following specifications and standards:

U.S. Military Specification – MIL-F-24385F with latest amendments and listed on QPL 24385 issued by U.S. Navy (NAVSEA).

Underwriters Laboratories Inc. – U.L. Standard 162 – EX 3125 (5th Ed.)

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 (Standard type both upright and pendant approvals only).
6. Subsurface Injection

It is impractical for Ansul to list its ANSULITE 3% agents with every piece of U.L. listed hardware. Moreover, there are numerous foam hardware components without U.L. listings that can not be listed for use with any AFFF agent.

Unlisted pieces of foam hardware should be similar to those listed. However, on installations where ANSULITE 3% may be used with hardware components of significantly different types than those tested, contact Ansul for recommendations.

ORDERING INFORMATION

ANSULITE 3% (AFC-5-A) is available in pails, drums or bulk shipment.

Part No. 68122 – 5 gallon pail
Part No. 68123 – 55 gallon drum
Part No. 68119 – Bulk shipment

Shipping Weight:
5 gal. (19 L) pail – 45 lbs. (20.4 kg)
55 gal. (208.1 L) drum – 495 lbs. (224.5 kg)

Cube:
5 gal. (19 L) pail – 1.25 cu. ft. (.0353 m^3)
55 gal. (208.1 L) drum – 11.83 cu. ft. (.3350 m^3)