

## EXTINGUISHING AGENT DATA SHEET

## ANSULITE® AFFF 3% FREEZE PROTECTED CONCENTRATE -20 °F (-29 °C)

### DESCRIPTION

ANSULITE AFFF 3% Freeze Protected 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. (Water hardness should not exceed 500 ppm expressed as calcium and magnesium.) It may also be used and stored as a 3% pre-mixed solution in fresh or potable water only. However, the diluted solution will freeze at 32 °F (0 °C). The correct proportioner mixture ratio is 3 parts concentrate to 97 parts water.

Three fire extinguishment mechanisms are in effect when using ANSULITE AFFF 3% Freeze Protected 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 of ANSULITE AFFF 3% Freeze Protected

Appearance	Clear Pale Yellow Liquid
Density @ 25 °C	1.067 gm/ml ± .025
pH @ 25 °C	7.80 ± .2
Refractive Index	1.3777 ± .0025
Viscosity @ 25 °C	7.0 ± .8 centistokes
Surface Tension @ 25 °C	18.5 ± .8 dynes/cm
Chloride Content	70 ppm

### APPLICATION

ANSULITE AFFF 3% Freeze Protected 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 AFFF 3% Freeze Protected Concentrate is measured against specifications and standards such as U.S. Military Specification MIL-F-24385B (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 water 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 device and flow rate. In general, the higher the flow rate the higher the expansion ratio. 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 AFFF 3% Freeze Protected 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 proportioner
3. Around-the-pump type proportioners
4. Fixed or portable (in-line) venturi type proportioners
5. Handline nozzles with fixed induction/pick-up tubes

The minimum and maximum usable temperatures for ANSULITE AFFF 3% Freeze Protected Concentrate in this equipment is -20 °F (-29 °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 AFFF 3% Freeze Protected Concentrate 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. Mixing after thawing is desirable so as to assure a homogenous solution.

**Compatibility** – Although ANSULITE 3% Freeze Protected Concentrate does not appear on the QPL for MIL-F-24385C, Ansul has conducted testing with admixtures of different manufacturers products in varying proportions and is satisfied that the ANSULITE 3% Freeze Protected AFFF Concentrate is compatible with these products. 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.

**Inspection** – As with any fire extinguishing agent, ANSULITE AFFF 3% Freeze Protected Concentrate, 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 AFFF 3% Freeze Protected Concentrate is approved, qualified under, listed or meets the requirements of the following specifications and standards:

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 pendent approvals only)

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

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

## ORDERING INFORMATION

ANSULITE AFFF 3% Freeze Protected Concentrate is available in 5 gallon containers – Part No. 54783 and 55 gallon drums – Part No. 54892.

### 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<sup>3</sup>)

55 gal. (208.1 L) drum – 11.83 cu. ft.  
(.3350 m<sup>3</sup>)

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