ANSUL®

EXTINGUISHING AGENT DATA SHEET

ANSULITE® 1% FREEZE PROTECTED AFFF CONCENTRATE –20 °F (–29 °C)

DESCRIPTION

ANSULITE 1% Freeze Protected Aqueous Film-Forming Foam (AFFF) Concentrate is formulated from specialty fluorochemical and hydrocarbon 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 1% proportioned solution in fresh, salt or hard water. It may also be used and stored as a 1% premixed solution in fresh or potable water only. The correct proportioning or mixture ratio is 1 part concentrate to 99 parts of water.

Three fire extinguishment mechanisms are in effect when using ANSULITE 1% Freeze Protected 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	Clear Pale Yellow Liquid
Density	1.05 g/ml
pH	7.3
Refractive Index	1.3940
Viscosity	14.1 centistokes
Spreading Coefficient	5.2

APPLICATION

ANSULITE 1% Freeze Protected 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 1% Freeze Protected AFFF Concentrate is measured primarily against Underwriters Laboratories Standard UL 162 (Latest Revision).

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 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 1% Freeze Protected 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 proportioner
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 temperature for ANSULITE 1% Freeze Protected AFFF 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 1% Freeze Protected 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 cycle is recommended.

Compatability – Ansul has conducted testing with admixtures of different manufacturers' AFFF products in varying proportions and is satisfied that the ANSULITE 1% 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.

Materials of Construction Compatibility – Tests have been performed with ANSULITE AFFF concentrates verifying 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 Ansul Fire Protection for specific guidelines concerning materials of constructions.

Inspection – As with any fire extinguishing agent, ANSULITE AFFF concentrates, 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 LISTINGS

ANSULITE 1% Freeze Protected AFFF Concentrate is approved, qualified under, listed or meets the requirements of the following specifications and standards:

Underwriters Laboratories Inc. – UL Standard 162 EX 3125 (Latest Revision)

1. Foam Quality Tests
2. Class B Hydrocarbon Fuel Fire Tests
3. Foam Identification Tests
4. Tests of Shipping Containers

It is impractical for Ansul to list its ANSULITE 1% Freeze Protected 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 1% Freeze Protected AFFF Concentrate may be used with hardware components of significantly different types than those tested, contact Ansul for recommendations.

ORDERING INFORMATION

ANSULITE 1% Freeze Protected AFFF Concentrate is available in pails, drums, or bulk shipment.

Part No. 415301	5 gallon pail
Part No. 415303	55 gallon drum
Part No. 415305	Bulk

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)

  Litho in U.S.A.