

ANSULITE® AFC-3DC 3% AFFF Concentrate

Description

ANSULITE® AFC-3DC 3% AFFF (Aqueous Film-Forming Foam) Concentrate combines fluoro- and hydrocarbon-surfactant technologies to provide superior fire and vapor suppression for Class B hydrocarbon fuel fires. This synthetic foam concentrate is intended for firefighting applications at 3% solution in fresh, salt, or hard water.

ANSULITE® AFC-3DC foam solution utilizes three suppression mechanisms intended for rapid fire knockdown and superior burnback resistance:

- The foam blanket blocks oxygen supply to the fuel.
- Liquid drains from the foam blanket and forms an aqueous film that suppresses fuel vapor and seals the fuel surface.
- The water content of the foam solution produces a cooling effect for additional fire suppression.

TYPICAL PHYSIOCHEMICAL PROPERTIES At 70 °F (20 °C)

Appearance	Clear amber liquid
Density	1.03 ± 0.02 g/ml
pH	7.5 - 8.5
Refractive Index	1.3630 minimum
Viscosity*	2 cSt minimum
Sediment**	≤ 0.1%
Spreading Coefficient	3 dynes/cm minimum at 3% dilution
Pour Point	30 °F (-1 °C)
Freeze Point	30 °F (-1 °C)

*Cannon-Fenske Viscometer

**ULC S560-06 protocol

The ANSULITE® AFC-3DC 3% AFFF Concentrate formulation contains short-chain, C6 fluorochemicals manufactured using a telomer-based process that does not produce PFOS.



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Approvals, Listings, and Standards

ANSULITE® AFC-3DC 3% AFFF Concentrate meets Canadian Aviation Regulation Standard 323 which requires CAN/ULC S560, Category 3 approved foams for use in crash fire rescue vehicles. The concentrate is listed and meets the requirements of the following standard:

- ULC S560, Category 3 Foam Liquid Concentrates



Application

ANSULITE® AFC-3DC 3% AFFF Concentrate is intended for use on Class B hydrocarbon fuel fires with low water solubility such as aviation fuels, gasolines, diesel fuels, and crude oils. It is not suitable for use on polar fuels with appreciable water solubility, such as methyl and ethyl alcohol, acetone, and methyl ethyl ketone. It may also be used in conjunction with dry chemical agents to provide even greater fire suppression performance.

ANSULITE® AFC-3DC Concentrate is specifically designed for aviation applications requiring exceptional firefighting performance, per the ULC S560, Category 3 standard. Ideal applications include:

- Aircraft Rescue and Fire Fighting (ARFF) vehicles
- Aircraft hangars, helidecks, and terminals
- Mobile emergency response equipment
- Flammable liquid containment areas

ANSULITE® AFC-3DC Concentrate may be used for general fixed, semi-fixed, and emergency response firefighting applications. It also has excellent wetting properties that can effectively combat Class A fires.

Foaming Properties

ANSULITE® AFC-3DC 3% AFFF Concentrate may be effectively applied using most conventional foam discharge equipment at a 3% dilution with fresh, salt, or hard water. For optimum performance, water hardness should not exceed 500 ppm expressed as calcium and magnesium.

ANSULITE® AFC-3DC Concentrate requires low energy to foam and the foam solution may be applied with aspirating and non-aspirating discharge devices. Non-aspirating devices, such as handline water fog/stream nozzles or standard sprinkler heads, typically produce expansion ratios from 2:1 to 4:1. Aspirating low-expansion discharge devices typically produce expansion ratios from 3.5:1 to 10:1, depending on the type of device and the flow rate. Medium-expansion discharge devices typically produce expansion ratios from 20:1 to 60:1.

TYPICAL FOAM CHARACTERISTICS* (Fresh and Salt Water)

Proportioning Rate	3%
Expansion Ratio	≥ 5
25% Drain Time (min:sec)	≥ 2:30
50% Drain Time (min:sec)	≥ 4:50

*per ULC S560-06 protocol

Proportioning

The recommended operational temperature range for ANSULITE® AFC-3DC 3% AFFF Concentrate is 32 °F to 104 °F (0 °C to 40 °C) per ULC S560. This foam concentrate can be correctly proportioned using most conventional, properly calibrated, in-line proportioning equipment such as:

- Balanced and in-line balanced pressure pump proportioners
- Balanced pressure bladder tanks and ratio flow controllers
- Around-the-pump type proportioners
- Fixed or portable in-line venturi type proportioners
- Handline nozzles with fixed eductor/pick-up tubes

For immediate use: The concentrate may also be diluted with fresh or sea water to a 3% pre-mix solution.

For delayed use: Consult Technical Services for guidance regarding suitability of a stored pre-mix solution (fresh water only).

Storage and Handling

ANSULITE® AFC-3DC 3% AFFF Concentrate should be stored in the original supplied package (HDPE totes, drums, or pails) or in the recommended foam system equipment as outlined in Johnson Controls Technical Bulletin *Storage of Foam Concentrates*. The product should be maintained within the recommended temperature range. If the concentrate freezes during transport or storage, full product serviceability can be restored upon thaw with gentle re-mixing.

Factors affecting the foam concentrate's long-term effectiveness include temperature exposure and cycling, storage container characteristics, air exposure, evaporation, dilution, and contamination. The effective life of ANSULITE® AFC-3DC Concentrate can be maximized through optimal storage conditions and proper handling. ANSULITE® concentrates have demonstrated effective firefighting performance with contents stored in the original package under proper conditions for more than 10 years.

ANSULITE® AFC-3DC Concentrate has been evaluated per ULC S560-06 for prolonged compatibility with other 3% AFFF concentrates listed with this standard. Mixing with foam concentrates not listed to ULC-S560, Category 3 is not recommended. The concentrate may be used in conjunction with comparable 3% AFFF products for immediate response.

Materials of Construction Compatibility

ANSULITE® AFC-3DC 3% AFFF Concentrate meets the corrosion requirements with cold rolled carbon steel (UNS G10100), 90-10 copper nickel (UNS C70600), 70-30 copper-nickel (UNS N04400), bronze (UNS C90500) and CRES steel (UNS S30400) as specified by ULC S560-06.

To help avoid corrosion, galvanized pipe and fittings should never be used in contact with undiluted ANSULITE® AFC-3DC Concentrate. Refer to Johnson Controls Technical Bulletin *Acceptable Materials of Construction* for recommendations and guidance regarding compatibility of foam concentrate with common materials of construction in the firefighting foam industry.

Inspection

ANSULITE® AFC-3DC 3% AFFF Concentrate should be inspected periodically in accordance with NFPA 11, NFPA 12, EN 13565-2, or other relevant standard. A representative concentrate sample should be sent to Johnson Controls Foam Analytical Services or other qualified laboratory for quality analysis per the applicable standard. An annual inspection and sample analysis is typically sufficient, unless the product has been exposed to unusual conditions.

Quality Assurance

ANSULITE® AFC-3DC 3% AFFF Concentrate is subject to stringent quality controls throughout production, from incoming raw materials inspection to finished product testing, and is manufactured in an ISO 9001:2008 certified facility.

Ordering Information

ANSULITE® AFC-3DC 3% AFFF Concentrate is available in pails, drums, totes, or bulk shipment.

Part No.	Description	Shipping Weight
Pails		
446894	5 gal (19 L)	45 lb (20.4 kg)
Drums		
446896	55 gal (208 L)	495 lb (224.5 kg)
Totes*		
446898	265 gal (1,003 L)	2,463 lb (1,117 kg)

For bulk orders, consult an account representative.

*Totes are not ULC approved packaging.

Safety Data Sheets (SDS) are available at www.ansul.com

If any foam product is discharged into the environment, efforts should be made to control, contain and collect the discharge for proper disposal, while following all applicable laws, regulations, and codes. Further information regarding the use, discharge, and disposal of firefighting foams can be found at www.ansul.com.

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

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