



Avio^{F3} Green Mil 3%

Synthetic
Fluorine Free Foam (FFF)
Concentrate
NFC518

- ✔ MIL-PRF-32725 (I1) Type 3 approved on QPL
- ✔ Superior quality synthetic fluorine free foam (FFF) concentrate designed for fast knockdown, strong burnback resistance and vapor suppression
- ✔ Specifically designed for ARFF vehicles
- ✔ Low-viscosity liquid for easy proportioning with conventional equipment
- ✔ Compatible with dry chemical for dual agent application
- ✔ 100% Biodegradable
- ✔ Formulated without the intentional addition of PFAS, PFOA, fluorosurfactants, fluoropolymers or organohalogenes



Avio^{F3} Green Mil 3% Fluorine Free Foam (FFF) concentrate produces a superior quality firefighting foam blanket specifically designed to extinguish and secure flammable aviation fuel spills and fires.

This low-viscosity concentrate with Newtonian flow characteristics may be easily proportioned with most conventional, onboard ARFF truck proportioning equipment.

MIL-PRF-32725 QPL approved Avio^{F3} Green Mil 3% foam blanket rapidly spreads over the surface of hydrocarbon fuels such Jet-A, Jet-A1, aviation gas and gasoline for fast fire control, extinguishment and vapor suppression.

Standards and Approvals

- ✔ MIL-PRF-32725 (I1) Type 3
- ✔ NFPA 403, 412, 414
- ✔ NFPA 409, 418

Applications

Avio^{F3} Green Mil 3% concentrate is intended for use in high-hazard spill situations where hydrocarbon fuels such as Jet-A, Jet-A1, aviation kerosene, and gasoline are used or transported. It is not suitable for use on polar solvents or water miscible fuels such as alcohols, ketones, esters and ethers.

Avio^{F3} Green Mil 3% concentrate is designed to be used on apparatus such as Aviation Rescue Fire Fighting vehicles (ARFF), Rapid Intervention Vehicles (RIV), airport crash trucks, and manual handlines in aircraft rescue operations where fast extinguishment is critical.

This FFF concentrate has been approved by the U.S. Department of Defense per the MIL-PRF-32725(I1) standard as a Type 3 foam on the Qualified Product List (QPL). Airport authorities and government agencies required to utilize a Mil-Spec qualified product may use Avio^{F3} Green Mil 3% concentrate.

Avio^{F3} Green Mil 3% Fluorine Free Foam concentrate is an excellent alternative to legacy Aqueous Film Forming Foam (AFFF) concentrates and complies with the FAA Reauthorization Act of 2018 (Section 332). It provides aircraft manufacturers and airports a fluorine free alternative that meets the requirements of NFPA 403, Standard for Aircraft Rescue and Firefighting Services at Airports.

Typical Physical Properties

Appearance.....Clear Yellow Liquid
 Refractive Index.....>1.36
 pH (nominal)7 - 8
 25% Drain time>3.5 minutes
 Minimum Foam Expansion.....7:1
 Viscosity @ 41°F(5°C)*30 cSt

*per ASTM D445 with capillary viscometer.

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Equipment

Avio^{F3} Green Mil 3% concentrate is intended for use at 3% (3 parts concentrate to 97 parts water) in potable or fresh water. It is readily proportioned using conventional foam proportioning equipment.

With appropriate mixing and application techniques, Avio^{F3} Green Mil 3% foam solution may be applied with conventional (mobile and fixed) low-expansion discharge devices to produce an effective fire-suppressing foam blanket. Refer to the Naval Research Laboratory's white paper on "Fluorine Free Foam (F3) Application Techniques and Firefighting Tactics" at <https://apps.dtic.mil/sti/trecms/pdf/AD1201646.pdf> for further details regarding best practices in applying MIL-PRF-32725 (I1) approved foams.

Avio^{F3} Green Mil 3% foam solution may be applied in combination with dry powder extinguishing agents either separately or as a twin agent system.

Per NFPA 11, Avio^{F3} Green Mil 3% FFF concentrate should not be mixed with other foam concentrates. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of firefighting capability.

Sustainability

Avio^{F3} Green Mil 3% concentrate is manufactured with no intentionally added PFAS, PFOA, fluorosurfactants, fluoropolymers, or organohalogens.

This concentrate is 100% biodegradable, but appropriate care should be taken to prevent concentrate spills or foam solution from entering groundwater, surface water, or storm drains. Disposal of Avio^{F3} Green Mil 3% foam concentrate or foam solution should be handled in accordance with federal, state, and local regulations.

Storage

Avio^{F3} Green Mil 3% concentrate is ideally stored in its original shipping container. It may also be stored in tanks or in other containers which have been designed for such foam storage. Recommended construction materials for foam storage tanks and containers include stainless steel (Type 304L or 316), high density cross-linked polyethylene, or reinforced fiberglass polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (50 -100 mils). Refer to National Foam technical bulletin NFTP100 for further information.

Foam concentrates are subject to evaporation which accelerates when the product is exposed to air. Storage tanks should be kept full, sealed and fitted

with a pressure vacuum vent to prevent free exchange of air. The recommended storage temperature range for Avio^{F3} Green Mil 3% concentrate is between 35°F and 120°F (2°C to 49°C). Foam Seal Balls (hollow plastic spheres), 1-1/2" diameter, floated on top of atmospheric tanks in (2) layers, may be used to slow evaporation. Refer to National Foam data sheet NF940 for additional information.

Shelf Life, Inspection, and Testing

The shelf life of any foam concentrate is maximized by proper storage conditions and maintenance. Factors affecting shelf life are wide temperature changes, exposure to extreme high or low temperatures, product evaporation, dilution, and contamination by foreign materials. National Foam firefighting foam concentrates have been tested and have not shown significant loss of performance after 10 or more years, provided annual testing and proper storage recommendations are followed.

Refer to National Foam technical bulletin NFTP240 for further recommendation details regarding foam concentrate storage and preservation. Annual testing of all firefighting foam is recommended by the National Fire Protection Association (NFPA). National Foam provides a Technical Service Program to conduct such tests. Refer to National Foam product data sheet NFC960 for further details on annual testing program.

Ordering Information			Manufactured in U.S.A.
Container	Shipping Weight	Shipping Dimensions	Part Number
5-Gallon Pails (19 liters)	44.1 lb. (20.0 kg)	1.13 cu. ft. ³ (0.032 cu. m)	2193-3340-3A
55-Gallon Drums (208 liters)	480.6 lb. (218.0 kg)	11.1 cu. ft. ³ (0.314 cu. m)	2193-3481-3A
275-Gallon IBC Reusable Tote Tank (1041 liters)	2428.5 lb. (1102.0 kg)	48.2 cu. ft. ³ (1.365 cu. m)	2193-3725-3A
330-Gallon IBC Reusable Tote Tank (1249 liters)	2990 lb. (1356.3 kg)	55.8 cu. ft. ³ (1.580 cu. m)	2193-3733-3A

National Foam

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National Foam operates a continuous program of product development. The right is therefore reserved to modify any specification without prior notice and National Foam should be contacted to ensure that the current issues of all technical data sheets are used.

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