DATA SHEET
#NFC120

# AER-O-FOAM XL-3
## Fluoroprotein Foam Concentrate

### *Description*

Aer-O-Foam® XL-3 is a superior quality fluoroprotein foam concentrate which is used at 3% to extinguish fires in hydrocarbon fuels. Aer-O-Foam XL-3 is also approved for use on Methyl Tertiary Butyl Ether (MTBE), Ethyl Tertiary Butyl Ether (ETBE), Tertiary Amyl Methyl Ether (TAME), and Gasoline/MTBE blended motor fuels.

### *Features*

- Stable long-lasting foam blanket provides excellent burnback resistance.
- Highly resistant to fuel contamination.
- Suitable for use with fresh or sea water.
- Compatible with standard proportioning and air aspirating foam making devices.
- Suitable for use with foam compatible dry powder extinguishing agents.

Aer-O-Foam XL-3 is manufactured utilizing a unique process which produces unmatched quality protein hydrolyzate to form the foundation for the concentrate formulation. The protein base provides a long lasting stable foam blanket, highly resistive to the effects of heat. This prevents reignition and enhances burnback resistance. Fluorochemical surfactant additives are combined with the protein base to increase fluidity of the foam enabling it to seal around obstructions.

### *Typical Physical Properties*

| | |
|---|---|
| Appearance | Dark Brown Color |
| Specific Gravity at 68°F(20°C) | 1.16 |
| pH | 7.3 |
| Viscosity at 68°F(20°C) | 50.0 csk |
| Freezing Point | 5°F(-15°C) |
| Minimum Usable Temperature | 20°F(-7°C) |
| Maximum Usable Temperature | 120°F(49°C) |
| Effects of Freeze/Thaw | No performance loss |

### *Applications*

Aer-O-Foam XL-3 is used in fire suppression systems and manual applications to fight fires involving hydrocarbon fuels such as crude oil, gasoline, and fuel oils. It is not suitable for use on most polar solvents or water miscible fuels such as alcohols, ketones, esters, and ethers. However, Aer-O-Foam XL-3 has been found to be suitable for use on slightly polar fuels such as MTBE, ETBE, TAME, and MTBE/gasoline motor fuel blends. Typical storage tank systems include surface (topside) application or subsurface injection.

Other uses include, loading racks, docks, process areas, spills, etc. For best performance, fluoroprotein foam concentrates should be used with aspirating nozzles and foam making devices.

### *Approvals and Listings*

- Underwriters Laboratories, Inc.
- Underwriters' Laboratories of Canada (ULC)
- Factory Mutual System
- United States Coast Guard

Aer-O-Foam XL-3 has successfully passed UL-162 7th Edition test criteria for use at 3% concentration on hydrocarbons, MTBE, ETBE, TAME, and MTBE/Gasoline motor fuel blends using both fresh and sea water. Aer-O-Foam XL-3 is also listed for use on biodiesel (methyl ester from lipid sources). The U.L. Listings include application through a variety of proportioning and foam making devices. Consult National Foam for a complete list of these devices.

Aer-O-Foam XL-3 has passed stringent U.S. Coast Guard requirements for shipboard flammable liquid fire protection for use at 3% concentration on hydrocarbons, MTBE, ETBE, TAME and MTBE/Gasoline motor fuel blends. Systems utilizing XL-3 can be designed in accordance with hydrocarbon carrier regulations. However, deck system application rates are increased for MTBE, ETBE, or TAME. This results in the most cost effective system design for tankers carrying hydrocarbons, blended motor fuels, MTBE, ETBE or TAME. Consult National Foam for details.

### *Underwriters Laboratories Listed Type II Application Rates*

| Fuel Group | Application Rate gpm/ft² (l/m/m²) |
|---|---|
| Hydrocarbons | 0.10 (4.1) |
| Methyl Tertiary Butyl Ether | 0.12 (4.9) |
| Ethyl Tertiary Butyl Ether | 0.12 (4.9) |
| Tertiary Amyl Methyl Ether | 0.12 (4.9) |
| 17.5% MTBE/82.5% Gasoline | 0.10 (4.1) |
| Biodiesel (Methyl Ester from lipid sources) | 0.10 (4.1) |

## *Storage and Handling*

Aer-O-Foam XL-3 is ideally stored in its original shipping container or in tanks or other containers which have been designed for such foam storage. Recommended construction materials are carbon steel, high density cross-linked polyethylene or reinforced polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (50-100 mils). Foam concentrates are subject to evaporation which accelerates when the product is exposed to air. Storage tanks should be sealed and fitted with a pressure vacuum vent to prevent free exchange of air. The recommended storage environment is within the UL listed temperature range of 20°F to 120°F (-7°C to 49°C).

It is recommended that Aer-O-Foam XL-3 not be mixed with any other type of foam concentrate in long term storage. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of firefighting capability. Most expanded foams are compatible for side-by-side application during an incident.

Aer-O-Foam XL-3 is suitable for use in combination with foam compatible dry chemical extinguishing agents.

## *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, extreme high or low temperatures, evaporation, dilution, and contamination by foreign materials. Properly stored Aer-O-Foam XL-3 has been tested and shown no significant loss of firefighting performance, even after 25 years.

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.

## *Environmental and Toxicological Information*

Aer-O-Foam XL-3 is biodegradable. However, as with any substance, care should be taken to prevent discharge from entering ground water, surface water, or storm drains. With advance notice, Aer-O-Foam XL-3 solution can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal or discharge of Aer-O-Foam XL-3 concentrate or foam solution should be made in accordance with federal, state, and local regulations.

The Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) of Aer-O-Foam XL-3 are as follows:

| | |
|---|---|
| $BOD_5$ | 158,000 mg/kg |
| $BOD_{20}$ | 445,000 mg/kg |
| COD | 766,000 mg/kg |

Results of tests for acute oral toxicity, primary skin irritation, and primary eye irritation have proved negative. Repeated skin contact will remove oils from the skin and cause dryness. Users are advised to wear protective equipment. If Aer-O-Foam XL-3 enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Aer-O-Foam XL-3 Material Safety Data Sheet.

## *Ordering Information*

| CONTAINER | SHIPPING WEIGHT | PART NUMBER |
|---|---|---|
| **5-Gallon Pails** | | |
| (19 litres) | 51 lbs. (23.2 kg) | 1111-1340-6 |
| **55-Gallon Drums** | | |
| (208 litres) | 554 lbs. (251.8 kg) | 1111-1481-6 |
| **275-Gallon IBC Reusable Tote Tank** | | |
| (1041 litres) | 2797 lbs. (1271 kg) | 1111-1725-6 |
| **Bulk** | 9.65 lbs./gal.(1.16 kg/l) | 1111-1001-6 |

Palletizing of pails and drums is available upon request.

**SHIPPING CUBE**

5-Gallon Pail ..... 1.13 cu. ft. (0.032 cu. m)

55-Gallon Drum ..... 11.51 cu. ft. (0.326 cu. m)

275-Gallon IBC Tote Tank ..... 51.11 cu. ft. (1.1061cu. m)



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