



## DATA SHEET #NFC720

# HIGH EXPANSION FOAM CONCENTRATE

### **Description**

National Foam High Expansion Foam is a superior quality synthetic foam concentrate used at 1.5% concentration for extinguishing fires where total flooding application is desired. High expansion foam effects extinguishment in two ways. Total flooding of the involved area limits the amount of oxygen required to support free combustion, and provides a slow continuous release of foam solution for cooling and penetration.

### **Features**

- Stable long-lasting uniform bubble structure.
- Suitable for use with fresh or sea water.
- Compatible with standard proportioning equipment.
- Suitable for use with foam compatible dry powder extinguishing agents.

NF High Expansion Foam is a low energy foaming agent, and although designed for use with high expansion equipment, it can be used in both air-aspirating and non air-aspirating foam making devices. The special surface active agents in NF High Expansion Foam concentrate give the foam the ability to drain very slowly when used with high expansion generators. This gives the finished foam the ability to travel long distances and retain water to provide effective fire fighting capabilities.

### **Applications**

NF High Expansion Foam is suitable for use in combating fires in buildings, process areas, warehouses, aircraft hangar systems, or anywhere total flooding is desired. High Expansion Foam systems can be used for protection of LNG storage areas by quickly blanketing the flammable liquid surface, and helping to control vapor release.

High Expansion is also useful as a wetting agent in combating class A fires. Although developed for use in high expansion foam generating equipment, NF High Expansion Foam can be used in both medium and low expansion foam equipment. Medium expansion foam is particularly effective for vapor suppression applications.

### **Typical Physical Properties**

|                                       |                   |
|---------------------------------------|-------------------|
| Appearance .....                      | Light Amber Color |
| Specific Gravity at 77°F (25°C) ..... | 0.98              |
| pH.....                               | 6.9               |
| Viscosity at 77°F (25°C) .....        | 11 csk            |
| Freezing Point .....                  | 20°F (-7°C)       |
| Minimum Usable Temperature .....      | 35°F (2°C)        |
| Maximum Usable Temperature .....      | 120°F (49°C)      |

### **Storage and Handling**

NF High Expansion 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 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)

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 temperature range of 35°F to 120°F (-2°C to 49°C).

It is recommended that NF High Expansion foam concentrate 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.

NF High Expansion 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 National Foam High Expansion foam concentrates have been tested and shown no significant loss of fire fighting performance, even after 15 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**

High Expansion 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, High Expansion can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal 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<sub>20</sub> 722,000 mg/kg  
COD 1,320,000 mg/kg

High Expansion has not been tested for acute oral toxicity, primary skin irritation or primary eye irritation. Repeated skin contact will remove oils from the skin and cause dryness. Expansion is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment. If High Expansion enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the High Expansion Material Safety Data Sheet.

### **Ordering Information**

| <b>CONTAINER</b>  | <b>SHIPPING WEIGHT</b>   | <b>PART NUMBER</b> |
|---|--------------------------|--------------------|
| <b>5-Gallon Pails</b><br>(19 litres)                      | 44 lbs. (20 kg)          | 1120-2340-6        |
| <b>55-Gallon Drums</b><br>(208 litres)                    | 479 lbs. (217.7 kg)      | 1120-2481-6        |
| <b>275-Gallon IBC Reusable Tote Tank</b><br>(1041 litres) | 2391 lbs. (1086.8 kg)    | 1120-2725-6        |
| <b>Bulk</b>   | 8.2 lbs./gal.(1.33 kg/l) | 1120-2001-6        |

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) |

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

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