



USAFE GREEN

HIGH EXPANSION FOAM



HIGH EXPANSION FIREFIGHTING FOAM CONCENTRATES

Its unique formulation is a blend of high activity synthetic foaming agents and foam stabilizers specially formulated to produce an extremely stable long-lasting foam. USAFE GREEN HI-EX FOAM has been formulated primarily for use at medium and high expansion, and it is effective on a wide variety of Class A and Class B fire risks. The finished foam has drainage characteristics far superior to those of standard de-tergents which increase its ability to carry water to the fire, acting as a positive aid to effective fire extinguishment De-pending on the equipment used USAFE GREEN HEF can also generate Low and Medium expansion firefighting foam. They are recommended for use where large volumes of finished foam are required, such as aircraft hangers, ships holds, car parks etc.

Applications

Usafe HI-ex s the ideal foam to use at medium expansion at minor incidents such as small hydrocarbon liquid spill fires where close approach to the fire allows hand-held apparatus to be used. It can also be used in conjunction with fixed installations to provide bund protection, where it can achieve extinction of fires or suppression of toxic vapor release after chemical spillage. At medium and high expansion, It is used for the total flooding of fire areas involving Class A and Class B fires: medium expansion for small areas such as cellars and basements of buildings, and high expansion for large areas such as ships' holds, machinery spaces, and LNG storage tank bunds. Medium and high expansion foams are most effective when dealing with outbreaks of fire in in-accessible locations, where direct application of conventional agents such as water is difficult or impossible due to smoke or restricted access.



Balanced Chemical System

Every foam is designed and manufactured to work in the specific risk for which it is intended. High expansion foams are no exception and are manufactured with great care to ensure maximum performance. With an accurate balance of extinguishing compounds and being 100% biodegradable, these foams offer the highest performance against their intended risk.

PROPORTIONING

- Fixed or portable in-line Inductors
- In-line balanced pressure and pump pressure proportioning skid
- Bladder tank balanced pressure proportioning system



COMPATIBILITY

USAFE GREEN HEF is suitable for use in combination with:

- Soft or hard, fresh, brackish or seawater.
- Expanded protein-based or synthetic foams for application to a fire in sequence or simultaneously.
- It is not normally considered compatible with dry powders but on LNG applications (high expansion) only surface foam layers are attacked, leaving a good vapor controlling blanket in place while the foam is topped up.

FOAM PROPERTIES

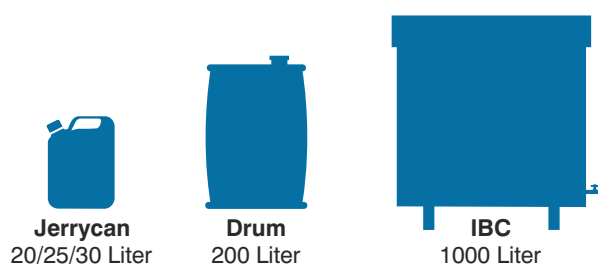
When USAFE GREEN HEF foam is mixed with water in the correct proportion, expansion ratios of up to 1,000 to 1 can be achieved. This expansion ratio is dependent on the type of discharge device and pressure of the system when operating.

PRODUCT		
Appearance		Clear Liquid
Specific Gravity @ 200C (680F)		1.00 - 1.02
pH @ 200C (680F)		6.0 - 8.0
Viscosity @ 200C (680F)	mm ² sec ⁻¹	7
Maximum Continuous storage temperature	°C (°F)	49 (120)
Maximum intermittent storage temperature	°C (°F)	60 (140)
Freezing point	°C (°F)	-3(27)
Effect of freeze/thaw		No loss of performance
Lowest use temperature	°C (°F)	-3 (27)
Induction rate		2
Expansion ratio	%	≥ 500
25% drainage time	min/sec	≥ 8'00"

STORAGE & HANDLING

USAFE GREEN HEF foam may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 10 years or more when stored at recommended temperatures and in original containers. It does not show significant sedimentation or precipitation in storage or after temperature cycling. Freezing and thawing have no effect on performance and the con-centrate proportions satisfactorily in ordinary equipment at temperatures above 1.7gC. Synthetic foam con-centrates should only be stored in stainless steel (Type 304L or 316), reinforced fibreglass polyester with a vinyl ester resin internal layer coating or plastic containers.

PACKING



FIRE FIGHTING EQUIPMENT



Manufactured by

UNITED FIRE & SAFETY SERVICES

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