FOMTEC® Enviro USP

Fluorine free foam concentrate

Fomtec©

Enviro USP

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Fomtec Enviro USP is a novel fluorine free firefighting foam totally free from fluorinated surfactants and polymers (PFAS).
Fomtec Enviro USP is especially designed to be an effective fluorine-free alternative for sprinkler systems, type II and III discharge devices.

- New Generation Fluorine Free Foam
- Approved for sprinkler, UL 162 Listed
- Superior Fire Performance: Rate 1A, EN 1568 Part 3-4, ICAO Level B
- Approved IMO 1312 and MED approved for marine use
- For Class A & B fires
- 100% Biodegradable
- Low, Medium & High Expansion

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DESCRIPTION

Fomtec Enviro USP can be used at 2% with fresh water for low, medium and high expansion discharge devices. For sprinkler systems it should be used in 3% proportioning. For use on class A type fires induction ratio of 0.5-1% is recommended depending on application and discharge device. Fomtec Enviro USP can be used with sea water when used as a 6% mixture. For polar solvents it recommended to use between 6% to 9% depending on fuel type and water quality.

APPLICATION

Fomtec Enviro USP is intended for use on class B hydrocarbon fuel fires such as oil, diesel and aviation fuels as well as class A fires such as wood, paper, textiles etc.
Fomtec Enviro USP is especially suited whenever a fluorine-free alternative (PFAS) with high fire performance is required. Approved for use in sprinkler systems as per UL listing. Suitable for mobile firefighting by use of aspirating foam discharge devices such as foam branchpipes and monitors, where application rates and technique can be adjusted to the specifics of each incident. Or in systems designed for use with the product based on recommended minimum applications rates, application duration and discharge devices.

FIRE PERFORMANCE & FOAMING

The fire performance of this product has been measured and documented according to "International Approvals" stated in this document. The design parameters depend on type of system and application. The use of the product should follow design guidelines. The foaming properties are depending on equipment used and other variables such as water and ambient temperatures. Average expansion 7:1, average ¼ drainage time 25:00 minutes using UNI 86 test nozzle.

EQUIPMENT

Fomtec Enviro USP can easily be proportioned at the correct dilution using conventional proportioning equipment.
The equipment should be designed to the foam type.
Fomtec Enviro USP should be used with approved sprinklers or aspirating foam discharge devices giving an expansion of more than 7:1 for optimal performance.

COMPATIBILITY

Fomtec Enviro USP can be used together with foam compatible powders and other expanded foams.
It is only intended for use with fresh water.
Fomtec Enviro USP concentrate should not be mixed with other foam concentrates.
For material compatibility please refer to Fomtec Technical Advices FTA 20 addressing the topic.
Tested to Boeing Specification Support Standard BSS7432 with conformity on all test parameters.

TYPICAL DATA	
Appearance	Clear yellowish liquid
Specific gravity at 20°C	1,04 ± 0.01 g/ml
Viscosity	Pseudoplastic*
pH	6,5 to 8,5
Freezing point	-11°C
Recommended storage temperature	0 to 55°C
Suspended sediment (v/v)	Less than 0,2%

*) *See detailed viscosity data below*

SPRINKLER APPLICATION

Sprinkler applications are especially challenging for any foam due to the very low operating pressure and the very low expansion reached. Applying foam through a sprinkler is a very forceful application method and requires foam that can handle direct application and partial submersion into the fuel without losing its fire performance and burnback resistance. Foams that shall be regarded as suitable for Sprinkler applications shall also be able to withstand limited time of water deluge directly onto the foam blanket without losing its burnback properties. Fomtec Enviro USP has passed these tests showing superior extinguishing and burnback properties. Refer to the FM Approval Guide and UL Listing for acceptable system configurations used with this concentrate and specific sprinkler SINs and their associated minimum application rates.

ENVIRONMENTAL

Fomtec Enviro USP is formulated using raw materials specially selected for their fire performance and their environmental profile. The product is totally free from fluorinated surfactants and polymers and other organohalogens, and therefore it does not contain any PFAS. Fomtec Enviro USP is 100% biodegradable. The handling of spills of concentrate or foam solutions should however be undertaken according to local regulations. Normally sewage systems can dispose foam solution based on this type of foam concentrate, but local sewage operators should be consulted.
Full details will be found in the Material Safety Datasheet (MSDS). For more detailed information please consult Fomtec Technical Advices FTA 40.

STORAGE / SHELF LIFE

Stored in original unbroken packaging the product will have a long shelf life. Shelf life in excess of 10 years will be found in temperate climates. As with all foams, shelf life will be dependent on storage temperatures and conditions.
For storage recommendations and material compatibility please refer to our Fomtec Technical Advices FTA 10 addressing the topic.

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INSPECTION/TESTING/ MAINTENANCE

The foam concentrate should be tested annually. The testing should be made by a suitable laboratory for analysis of foam concentrates and should measure: pH, specific gravity, expansion, drainage time. Storage containers should be inspected and reevaluated for the suitability of the storage location in regard to temperature fluctuations (temperature should be as stable as possible). Exposure to direct sunlight should be avoided.

PACKAGING

We supply this product in 25 litre or 5 US gallon cans, 200 litre or 55 US gallon drums, and 1000 litre or 265 US gallon IBC containers. Larger bulk supply is available against special request.

ENVIRO BY FOMTEC

The Fomtec Enviro range comprises an extensive range of non-PFAS based foams suitable for use Emergency Response missions and System applications. Enviro foam concentrates are available for class A, class B fire hazards and products are available for low, medium, and high expansion discharge devices.

Volume per piece	Packaging	Part no	Approx. shipping weight*	Dimensions (mm) L x W x H
25 ltr	Can	11-6000-01	26,7 kg	295 x 260 x441
200 ltr	Drum	11-6000-02	212,5 kg	581x 581 x 935
1000 ltr	Container	11-6000-04	1080 kg	1200 x1000 x1150
5 US gal.	Can	11-6000-00	20,58 kg	295 x 260 x 441
55 US gal.	Drum	11-6000-03	220,66 kg	581 x 581 x 935
265 US gal.	Container	11-6000-05	1083,6 kg	1200 x1000 x1150
Bulk	Special request			

** including packaging.*

APPROVALS AND LISTINGS

- Underwriters Laboratories, UL 162, 7th Edition, sprinkler
- FM 5130 Sprinkler and topside type II and type III discharge devices
- EN 1568 Part 1, Pass
- EN 1568 part 2, Pass
- EN 1568 part 3, Class 1A fresh water
- EN1568 part 4 (tested at 6% on Acetone and 9% on IPA), Class 1A, II A, I C
- ICAO Level B
- IMO Circ. 1312 for both hydrocarbon and polar solvents when used as 6%
- GESIP

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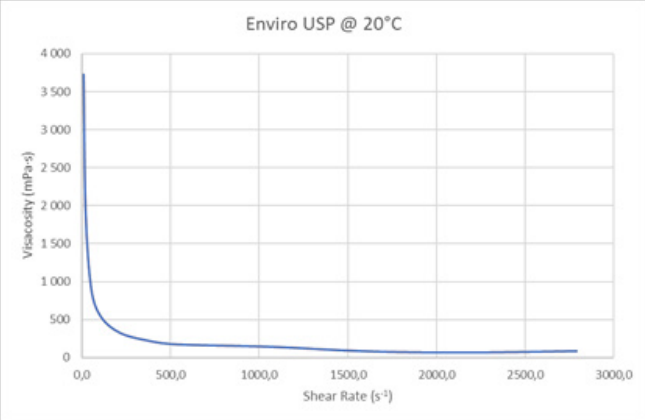
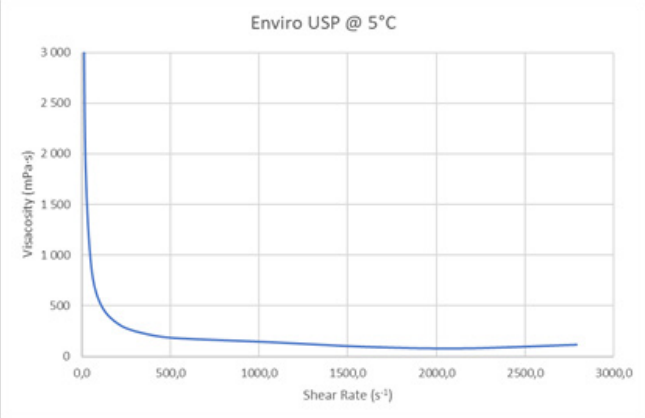
VISCOSITY DATA - FLOW CURVES

The viscosity flow curves are determined by Brookfield RST rheometer from low to high shear rates. The viscosity curves below are determined by calculating the average value of at least 8 different measurements and add a safety margin of three standard deviations to the average. The viscosity curves are determined for 20°C and 5°C. In the table below the kinematic viscosity (mm²/s) is calculated as dynamic viscosity (mPa·s) divided by the specific gravity of the concentrate.

Shear Rate (s-1)	Dynamic Viscosity (mPa·s) 20°C	Dynamic Viscosity mPa·s) 5°C	Kinematic Viscosity (mm²/s) 20°C	Kinematic Viscosity (mm²/s) 5°C
10.7	3728	3505	3584	3370
21.5	1939	1884	1864	1811
53.7	903	884	868	850
107.4	542	514	521	494
214.8	329	312	317	300
375.0	226	220	217	211
537.0	177	182	170	175
1074.0	145	142	139	137
1611.0	86	97	83	93
2148.0	70	82	68	79
2792.2	88	117	85	113





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