FOMTEC® Enviro ARK

Fluorine free foam concentrate

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Enviro ARK

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Fomtec Enviro ARK is a novel multi-purpose alcohol resistant firefighting foam concentrate totally free from fluorinated surfactants and polymers (PFAS). The unique formulation of Fomtec Enviro ARK enables the foam to rapidly cover burning surfaces and control the fire. As a result, it is effective against hydrocarbon fires and with the presence of special polymers, it is also very effective against polar solvents. The fire suppression mechanism of Fomtec Enviro ARK is utilizing the foam blankets' ability to block oxygen supply to the fuel and the high water content cools the fuel surface reducing the evaporation of flammable vapours. Additionally, the foam blanket prevents the reignition of an extinguished fuel surface. When applied on polar solvents, a polymeric membrane is formed and makes it possible for the foam blanket to extinguish effectively. It also works on severe foam destroying liquids such as MTBE.

- New Generation alcohol resistant Fluorine Free Foam
- Tested with sprinklers, type II and III discharge devices
- Excellent fire performance on Heptane, Acetone, and IPA with both potable and seawater
- For Class A & B fires

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DESCRIPTION

Fomtec Enviro ARK is specially designed and tested to be an effective fluorine-free alternative for sprinkler systems, type II and III discharge devices. Fomtec Enviro ARK can be used at 3% with fresh water for low and medium discharge devices. For type II, III discharge devices and sprinkler systems it can be used at 3% proportioning. When used at 6% proportioning, it will have higher performance on polar solvents enabling lower application rates with type II and III devices.For use on class A type fires induction ratio of 0.3-1% is recommended depending on application and discharge device.

APPLICATION

Fomtec Enviro ARK is intended for use on class B hydrocarbon fuel fires such as oil, Diesel and Gasoline well as polar solvents such as IPA, Acetone, Ethanol, and Methanol, as well as class A fires such as wood, paper, textiles etc.
Fomtec Enviro ARK is especially suited whenever a fluorine-free (PFAS free) alternative with high fire performance is required. Fomtec Enviro ARK is tested for use in sprinklers. Suitable for mobile firefighting by use of aspirating foam discharge devices such as low and medium expansion foam branch pipes 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 application rates, application duration and discharge devices.

FIRE PERFORMANCE & FOAMING

The fire performance of this product has been measured and documented according to “Performance Tests” stated in this document. The design parameters depend on the type of system and application. The use of the product should follow the design guidelines. The foaming properties are depending on the equipment used and other variables such as water and ambient temperatures. Average expansion 8:1, average ¼ drainage time 17:00 minutes using UNI 86 test nozzle.

EQUIPMENT

Fomtec Enviro ARK can easily be proportioned at the correct dilution using conventional proportioning equipment. The equipment should be designed to the foam type.
Fomtec Enviro ARK should be used with the sprinklers it has been tested with or with discharge devices having expansion ratio and drainage time within tolerances of foam properties used in fire tests made with the product according to UL 162 and or FM 5130 standards.

COMPATIBILITY

Fomtec Enviro ARK can be used together with foam compatible powders and other expanded foams.
Fomtec Enviro ARK concentrate should not be mixed with other foam concentrates.
For material compatibility please refer to Fomtec Technical Advices FTA 20 addressing the topic.

TYPICAL DATA	
Appearance	Clear yellowish liquid
Specific gravity at 20°C	1,013 ± 0.01 g/ml
Viscosity	Pseudoplastic*
pH	6,5 to 8,5
Freezing point	-4°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 low operating pressure and the very low expansion reached. Applying foam through a sprinkler is a 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 and still maintain the burnback properties. Fomtec Enviro ARK has passed above described tests showing very good 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 ARK 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 ARK 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.

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.

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.

APPROVALS AND LISTINGS

- UL 162, 7th Edition, sprinkler and topside type II and type III discharge devices

- FM 5130 Sprinkler and topside type II and type III discharge devices

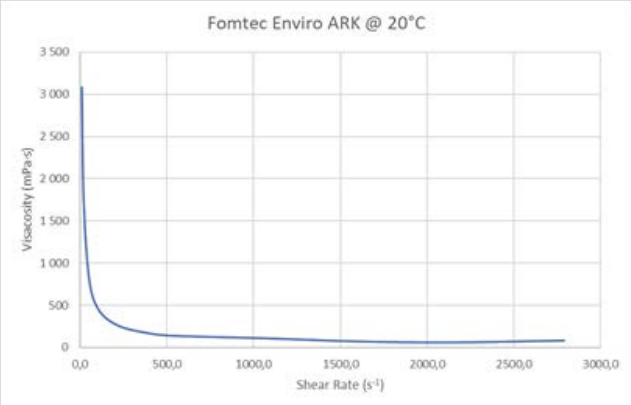
Volume per piece	Packaging	Part no	Approx. shipping weight*	Dimensions (mm) L x W x H
25 ltr	Can	12-3370-01	26,7 kg	295 x 260 x441
200 ltr	Drum	12-3370-02	212,5 kg	581x 581 x 935
1000 ltr	Container	12-3370-04	1080 kg	1200 x1000 x1150
5 US gal.	Can	12-3370-00	20,3 kg	295 x 260 x 441
55 US gal.	Drum	12-3370-03	220,5 kg	581 x 581 x 935
265 US gal.	Container	12-3370-05	1085 kg	1200 x1000 x1150
Bulk	Special request			

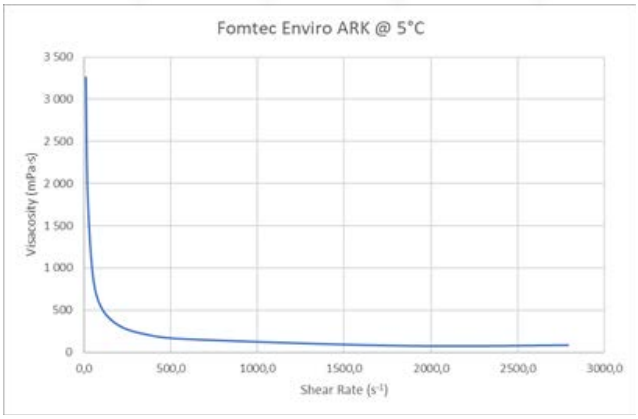
** including packaging.*

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	3083	3258	3043	3217
21.5	1726	1851	1703	1827
53.7	791	870	781	859
107.4	444	505	438	499
214.8	261	304	258	300
375.0	174	206	171	204
537.0	136	164	134	162
1074.0	106	121	104	119
1611.0	68	88	67	87
2148.0	58	75	57	74
2792.2	79	87	78	86





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