FOMTEC® Enviro 3x3 Plus
Fluorine free alcohol resistant foam concentrate

fomtec
Fire Fighting Foams & Equipment

Fomtec©
Enviro 3x3 Plus

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Fomtec Enviro 3x3 Plus is a novel multi-purpose alcohol resistant firefighting foam concentrate totally free from fluorinated surfactants and polymers (PFAS). Enviro 3x3 Plus is a member of the Enviro high performing fluorine free AR-capable product family. For selection of most suitable version we refer to our product overview detailing specific properties of the different versions (Enviro 3x3 Plus, Enviro 3x6 Plus, Enviro 6x6 Plus and Enviro 3x3 Ultra).

■ Fluorine free alcohol resistant foam concentrate

■ Excellent fire performance on Heptane, Acetone and IPA with both potable and sea water

■ Third party fire tested according to EN 1568-1, -3 and -4

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Fomtec® Enviro 3x3 Plus Revised: 2022-03-03

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FOMTEC® Enviro 3x3 Plus
Fluorine free alcohol resistant foam concentrate

DESCRIPTION

The unique formulation of Fomtec Enviro 3x3 Plus enables the foam to rapidly cover burning surfaces and control of 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. In particular the performance on IPA is a significant improvement in comparison with many FFF type products.

The fire suppression mechanism of Fomtec Enviro 3x3 Plus is utilising 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 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.

Fomtec Enviro 3x3 Plus should be used at a 3% proportioning ratio (3 parts concentrate and 97 parts water) for hydrocarbon fuels as well as polar solvents.

For use on Class A type fires, induction ratio of 0,3% to 1% is recommended depending on application and discharge device. When used with sea water an increased application rate or application duration must be adopted to maintain fire performance on hydrocarbon fuels.

APPLICATION

Fomtec Enviro 3x3 Plus is intended for use on class B hydrocarbon fuels as well as polar solvents like isopropyl alcohol, methanol, ethanol, acetone etc. Fomtec Enviro 3x3 Plus can be used as low and medium expansion foam. Especially suited for use in 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.

Fomtec Enviro 3x3 Plus is also effective against class A fires such as wood, paper, textiles etc. at 0,3% to 1% proportioning.

FIRE PERFORMANCE & FOAMING

The fire performance of this product has been tested and documented according to the "International Approvals" stated in this document. The use of the product should follow design guidelines appropriate to the type of system and application. The foaming properties are depending on equipment used and other variables such as water and ambient temperatures. Average expansion 7,5:1, average 25% drainage time 15:00 minutes using UNI 86 test nozzle according to EN 1568-3.

EQUIPMENT

Fomtec Enviro 3x3 Plus can be proportioned at the correct ratio using proportioning equipment designed for the foam type.

TYPICAL DATA

TYPICAL DATA	
Appearance	Clear yellowish liquid
Specific gravity at 20°C	1,025 ± 0.01 g/ml
Viscosity	Pseudoplastic*
pH	6,5 – 8,5
Freezing point	-6°C
Recommended storage temperature	-5°C - 55°C
Suspended sediment (v/v)	Less than 0,1%
Surface tension	≤ 28,0 mN/m

Fomtec Enviro 3x3 Plus is suitable for use with Type II (gentle application) and Type III (direct application) discharge devices. It can be used in low and medium expansion applications with all conventional aspirating discharge devices giving an expansion ratio of more than 7:1 for best performance. Fomtec Enviro 3x3 Plus is also suitable for use in CAF-systems.

COMPATIBILITY

Fomtec Enviro 3x3 Plus can be used together with foam compatible powders and other expanded foams.
It is suitable for all water types.
For mixing with other foam concentrates, contact Fomtec for advise and guidance. For material compatibility please refer to our Fomtec Technical Advices FTA 20 addressing the topic.

ENVIRONMENTAL

Fomtec Enviro 3x3 Plus is non-hazardous, biodegradable substance formulated using raw materials specially selected for their fire performance and their environmental profile. All raw materials are registered in European REACH-database. The product is totally free from fluorinated surfactants and polymers and other organohalogens, and therefore it does not contain any PFAS.

The disposal of spills of concentrate or premix foam solution should be made in accordance with local regulations. For more detailed information please consult our 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 foam concentrates, 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

All foam concentrates should be tested annually. Testing should be carried out by an approved laboratory certified to assess firefighting foam quality according to relevant standards, such as NFPA 11, EN 13565-2, EN 1568 and IMO MSC.1Circ. 1312. Storage containers should be inspected and reevaluated for the suitability of the storage location regarding 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.

INTERNATIONAL APPROVALS

- EN 1568, part 1
- EN 1568, part 3
  Class IIIB fresh water
- EN 1568, part 4
  Acetone: IB Fresh water
  IPA: IB fresh water

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	12-3350-01	26,8 kg	295 x 260 x441
200 ltr	Drum	12-3350-02	212,9 kg	581x 581 x 935
1000 ltr	Container	12-3350-04	1085 kg	1200 x1000 x1150
5 US gal.	Can	12-3350-XX	20,3 kg	295 x 260 x 441
55 US gal.	Drum	12-3350-XX	221,6 kg	581 x 581 x 935
265 US gal.	Container	12-3350-XX	1090 kg	1200 x1000 x1150
Bulk	Special request	12-3350-XX		

* 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 measurement 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)		Kinematic Viscosity (mm²/s)	
	20°C	5°C	20°C	5°C
10,7	3046	3095	2972	3020
21,5	1644	1639	1604	1599
53,7	775	779	756	760
107,4	449	456	438	445
214,8	269	278	262	271
375,0	180	192	176	187
537,0	139	155	136	151
1074,0	102	126	100	123
1611,0	71	86	69	84
2148,0	59	73	58	71
2792,2	76	97	74	94

Fomtec Enviro 3x3 Plus @ 20°C

Fomtec Enviro 3x3 Plus @ 5°C

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