

# FOMTEC® Enviro 3x3 Ultra

Fluorine free alcohol resistant foam concentrate



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Fomtec® Enviro 3x3 Ultra is a novel multi-purpose alcohol resistant firefighting foam concentrate totally free from fluorinated surfactants and polymers (PFAS). The unique formulation of Fomtec® Enviro 3x3 Ultra 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.

- Fluorine free alcohol resistant foam concentrate
- Excellent fire performance on Heptane, Acetone and IPA with both potable and sea water
- HOCNF documented and NEMS registered



## DESCRIPTION

The fire suppression mechanism of Fomtec Enviro 3x3 Ultra 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 Ultra 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 the fire performance is slightly reduced on hydrocarbon fuels. This may be compensated by increased application rate.

## APPLICATION

Fomtec® Enviro 3x3 Ultra is intended for use on class B hydrocarbon fuels as well as polar solvents like isopropyl alcohol, methanol, ethanol, acetone etc.

Fomtec® Enviro 3x3 Ultra 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 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 applications rates, application duration and discharge devices.

Fomtec® Enviro 3x3 Ultra 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 7:1, average 25% drainage time 18:00 minutes using UNI 86 test nozzle according to EN 1568-3.

## EQUIPMENT

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

Fomtec® Enviro 3x3 Ultra 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 Ultra is also suitable for use in CAF-systems.

## TYPICAL DATA

Appearance	Clear yellowish liquid
Specific gravity at 20°C	1,035 ± 0.01 g/ml
Viscosity	Pseudoplastic*
pH	6,5 – 8,5
Freezing point	-12°C
Recommended storage temperature	-11°C - 55°C
Suspended sediment (v/v)	Less than 0,1%
Surface tension	≤ 28,0 mN/m

\* See detailed viscosity data below

## COMPATIBILITY

Fomtec® Enviro 3x3 Ultra 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 Ultra 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.

The products is fully documented to the Norwegian HOCNF regulation, and is registered in the NEMS database.

## 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.

## 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.1/Circ. 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 3  
Class IB fresh water / IIIC sea water
- EN 1568, part 4  
Acetone: IA Fresh water / IB sea water  
IPA: IB fresh water / IB sea water
- GESIP

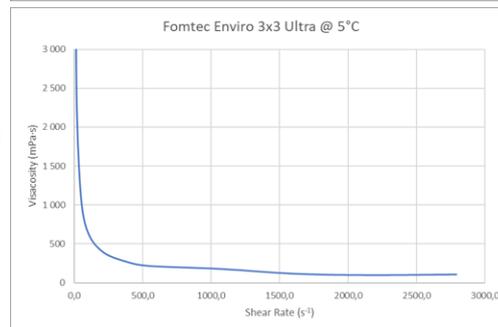
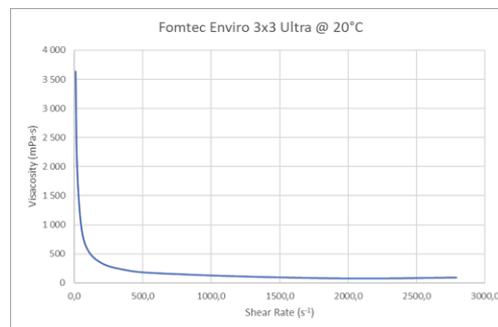
Volume per piece	Packaging	Part no	Approx. shipping weight*	Dimensions (mm) L x W x H
25 ltr	Can	12-3355-01	27,2 kg	295 x 260 x 441
200 ltr	Drum	12-3355-02	216,5 kg	581 x 581 x 935
1000 ltr	Container	12-3355-04	1100 kg	1200 x 1000 x 1150
5 US gal.	Can	12-3355-XX	20,7 kg	295 x 260 x 441
55 US gal.	Drum	12-3355-XX	225,2 kg	581 x 581 x 935
265 US gal.	Container	12-3355-XX	1105 kg	1200 x 1000 x 1150
Bulk	Special request	12-3355-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 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 (mm<sup>2</sup>/s) is calculated as dynamic viscosity (mPa·s) divided by the specific gravity of the concentrate.

Shear Rate (s <sup>-1</sup> )	Dynamic Viscosity (mPa·s) 20°C	Dynamic Viscosity (mPa·s) 5°C	Kinematic Viscosity (mm <sup>2</sup> /s) 20°C	Kinematic Viscosity (mm <sup>2</sup> /s) 5°C
10.7	3631	3658	3508	3535
21.5	1984	2077	1917	2007
53.7	928	1021	897	987
107.4	536	618	517	597
214.8	325	390	314	376
375.0	225	274	218	265
537.0	180	219	174	211
1074.0	126	178	121	172
1611.0	93	117	90	113
2148.0	80	99	77	96
2792.2	96	107	92	103



## 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.

