



vaPUREx[®] AR MARINE 3/3 F-5 #8343



ALCOHOL RESISTANT FOAM CONCENTRATE

vaPUREx[®] AR MARINE 3/3 F-5 is a highly effective, universal firefighting foam agent for use in critical risk areas where polar^{*1} flammable liquids (e.g. alcohols, ketones, organic acids, etc.), non-polar^{*2} hydrocarbons (diesel, kerosene, gasoline, crude oil, etc.) respectively other chemicals are produced, processed, decanted, transported or stored. vaPUREx[®] AR MARINE 3/3 F-5 is particularly suitable and tested for use in marine environments.

The good foamability, a very free-flowing and well-sealing, unusually stable low expansion foam and its maximum robustness against changing operating conditions (fluctuations in the admixture, water quality, fuel influence, etc.) are the outstanding features of this exceptionally efficient product.

The firefighting foam agent meets the highest standards of environmental compatibility and is therefore available to the user for all application scenarios.

Performance

vaPUREx[®] AR MARINE 3/3 F-5 is readily biodegradable and free of organic fluorine compounds^{*3} and preservatives. Its classification in the lowest possible water hazard class (WGK) 1, and the classification of the concentrate with the best grade of zero points according to the Bavarian environmental classification model^{*4} proves the outstandingly benign environmental profile of vaPUREx[®] AR MARINE 3/3 F-5.

vaPUREx[®] AR MARINE 3/3 F-5 foam has an exceptional high water-holding capacity and special viscoelastic properties that significantly determine its performance profile: the foam becomes very free-flowing, seals well and is particularly stable against heat and air movement. Smaller destructions of the foam blanket (e.g. by falling objects) will automatically heal which guarantees high securing capabilities.

vaPUREx[®] AR MARINE 3/3 F-5 is resistant to non-polar^{*2} as well as to foam-destroying, polar^{*1} hydrocarbons and mixtures thereof. A stable polymer film forms on polar^{*1}, foam-destroying liquid hydrocarbons, protecting the foam blanket from further destruction.

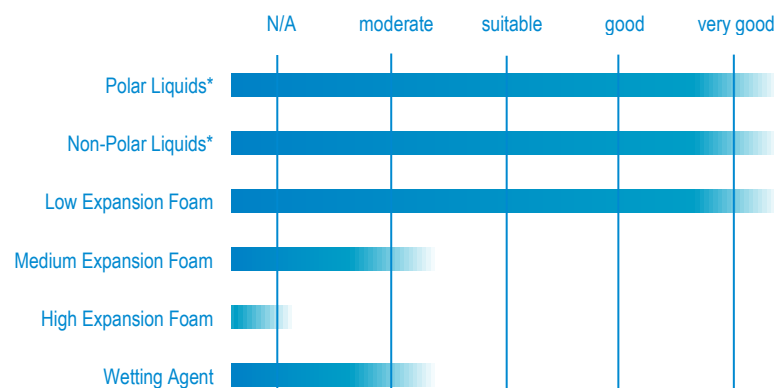
vaPUREx[®] AR MARINE 3/3 F-5 proves to be exceptionally application robust: extensive tests with varying admixture, on different liquid fuels and different foam qualities confirm the outstandingly high application reliability.

Technical Specification

Appearance	colourless/yellow
Fire Class/-es	A + B
Lowest Use Temperature	-5 [°C]
Max. Storage Temperature	max. +50 [°C]
Specific Gravity (20°C)	1,030 ± 0,02 [g/ml]
pH value (20°C)	6,5 - 8,5
Viscosity (20°C)	< 570(190) [mPa*s bei 75(375) 1/s]
Sedimentation	Sediment Free

Foam Properties acc. to EN1568 at 20°C

Induction Rate	3%
Expansion Rate	6 - 10
25% Drainage Time	> 20 [min]
50% Drainage Time	> 40 [min]
Expansion Types	Low Expansion Foam



*as mentioned in the respective test standard or in the text

Performance Tests



IMO MSC.1/Circ. 1312 non-polar (Heptane)
IMO MSC.1/Circ. 1312 polar (Alcohol)



Notified Body: BG Verkehr - No. 0736
Approval-No.: 201053-01



Special Fire Test
Level B on Kerosene following ICAO Airport Services Manual using Sea Water

¹ flammable liquids that are miscible with water.
² flammable liquids that are not miscible with water.
³ We define fluorine-free as products that are manufactured without the intentional addition of fluoroorganic compounds for the purpose of improving performance in such a way that, according to currently commercially available analysis of PFAS in firefighting foam concentrates, they do not contain any quantity of fluoroorganic substances in excess of the ubiquitous regional background contamination (e.g. in the drinking water used for production).
⁴ The Bavarian environmental classification is a simplified model for evaluating the toxicological and ecotoxicological profile of firefighting foam agents, which was developed on behalf of the Bavarian Ministry of the Interior and is increasingly being used in Germany. For more information on this topic, please read our T1 020-Environmental Classification Foam.

Application

The main areas of application are chemical and petroleum industries, aviation (airports, heli-decks) and marine, both on- and offshore (ports, platforms, shipping).

vaPUREx® AR MARINE 3/3 F-5 is suitable for all qualities of water (fresh water, industrial water free of foam-destroying additives, sea water and brackish water). The proportioning rate to fire water is 3% for all applications.

Due to increased viscosity and pseudoplastic property, pump assisted admixing is recommended at concentrate temperatures < 5°C. Since the viscosity of a foam extinguishing concentrate also depends on its temperature, it is recommended to test the delivery and proportioning equipment at least once at the temperature limits to be expected typical for the use scenario. Please contact us for suitable equipment or appropriate testing.

vaPUREx® AR MARINE 3/3 F-5 can be expanded to give low expansion foam with any commercially available foam generating devices and is suitable to fight fires of the fire classes A and B (polar and non-polar). When used in extinguishing systems, make sure that the foam solution is converted as completely as possible into foam of sufficient foam quality (expansion ratio and flowability) for the respective application.

Compatibility

When mixing different firefighting foam agents, it must be considered that the resulting mixture is a new chemical product which is not tested as firefighting foam agent and also must be re-evaluated and labelled according to hazardous materials regulations.

vaPUREx® AR MARINE 3/3 F-5 shall under no circumstances be mixed with other firefighting foam concentrates or -solutions, neither as a concentrate nor as a premix. Even the smallest quantities can render the products concerned non-useable, respectively lead to precipitation or agglomeration and consequently to equipment failure. The foam produced from vaPUREx® AR MARINE 3/3 F-5 is fully compatible with all other ready expanded firefighting foams.

Storage & Shelf Life

When synthetic firefighting foam agents and concentrates are stored, only certain materials in only certain combinations are suitable for permanent media contact. Our detailed Technical Information Nos. 014 (Storage of synthetic firefighting foam concentrates) and 009 (Material suitability polymers) provide information on this and other important aspects for the optimum storage of our products. Please do not hesitate to contact us for further information. On short-term contact and subsequent thorough cleaning with water, # or a premix solution made from it will not corrode metals such as copper, aluminium, brass, admiralty brass or bronze.

Elevated temperatures up to a maximum of +50°C or temporary freezing at temperatures below the specified frost resistance limit do not affect this high-quality product adversely (see our further Technical Information on the storage of firefighting foam agents). Temperature should not exceed +50°C.

Before filling storage tanks, these tanks and all supply lines, pumps, valves or other parts carrying media must be thoroughly cleaned, free of grease and free of residues from a previous filling. Before filling up stocks of our vaPUREx® AR MARINE 3/3 F-5 we recommend to have

a quality test of the stock to be filled up carried out in our laboratory. If stored according to our storage recommendations, a shelf life of well over ten years is possible.

Environment

vaPUREx® AR MARINE 3/3 F-5 was fully toxicologically tested. The product is readily biodegradable.

Unused product (concentrate) must not be released into the environment. Disposal must be carried out in consultation with local authorities and specialised waste treatment companies.

Please also note further information in our safety data sheet!

Transport

vaPUREx® AR MARINE 3/3 F-5 is available in the following packaging units: PE-canister (20 ltr, 25 ltr and 60 ltr), PE-canister according to DIN 14452 (20 ltr); PE-drum (200 ltr), PE-IBC (600 ltr und 1.000 ltr) or bulk.

Please contact us for special packing sizes.



For further Documentation please scan the Qr code or see <http://sthamer.de/q/8343>



Safety Advice: Please bear in mind that foam solutions are electroconductive liquids. The use in proximity to electrical/electronic equipment can require specific safety measures.



Safety Advice: Please see our Technical Information regarding "Mixing of Foam Concentrates" for further information

Disclaimer:

Any information in this product data sheet bases upon our best knowledge and expertise at the time of this issue. We reserve the right to change the content of this document or adopt to newer information. Please ask for the most recent revision of this data sheet.

Main Office Hamburg Liebigstr. 5 22113 Hamburg GERMANY Tel.: +49 (0)40 73 61 68-0 Fax: +49 (0)40 73 61 68-60	Sales Office Hannover Hartenbrakenstr. 54 30659 Hannover GERMANY Tel.: +49 (0)511 768 358-45 Fax: +49 (0)511 768 358-46	Sales Office Jena Carl-Pulfrich-Str. 1 07745 Jena GERMANY Tel.: +49 (0)3641 63538-57 Fax: +49 (0)3641 63538-59	Office Frankenthal Siemensstr. 4 67227 Frankenthal GERMANY Tel.: +49 (0)6233 3796-605 Fax: +49 (0)6233 3796-622	info@sthamer.com www.sthamer.com	
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