



vaPUREx[®] AR 1/3 F-5 #8441



ALCOHOL RESISTANT FOAM CONCENTRATE

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

Good foamability, a very flowable and well-sealing and extremely stable low expansion foam, as well as maximum insensitivity to changing operating conditions (admixture variations, water quality, fuel influence, etc.) are the outstanding features of this exceptionally high-performance 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 1/3 F-5 is easily and completely 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 1/3 F-5.

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

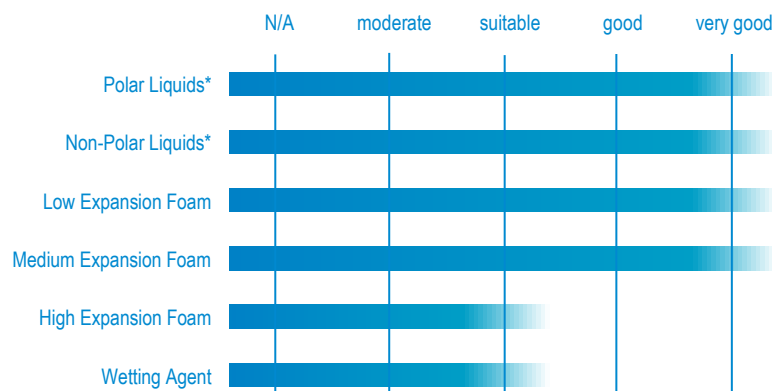
vaPUREx[®] AR 1/3 F-5 proves to be exceptionally application robust: extensive tests with varying admixture, on different liquid fuels and different foam qualities confirm the outstandingly high application reliability.

Technical Specification

Appearance	colorless to yellow
Fire Class-es	A + B
Lowest Use Temperature	-5 [°C]
Max. Storage Temperature	max. +50 [°C]
Specific Gravity (20°C)	1,070 ± 0,02 [g/ml]
pH value (20°C)	6,5 - 8,5
Viscosity (20°C)	< 660(290) [mPa*s bei 75(375) 1/s]
Sedimentation	Sediment Free

Foam Properties acc. to EN1568 at 20°C

Induction Rate	1% - 3%
Expansion Rate	5 - 8, 20 - 60
25% Drainage Time	16 - 20, 6 - 10 [min]
50% Drainage Time	20 - 29, 11 - 15 [min]
Expansion Types	Low, Medium Expansion Foam



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

Approvals



EN 1568:2018 - Approval-No.: KB 65/21
Part 3 (Heptane): IB/IB
Part 4 (Acetone): IA/IA --- (IPA): IA/IA
Part 1: Medium Expansion Foam --- Part 2: High Expansion Foam

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 1/3 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 1/3 F-5 can be expanded to give Low and Medium Expansion Foam with any commercially available foam generating devices and is suitable to fight fires of the class A fires an B (polar and non-polar). Low expansion foam made from vaPUREx[®] AR 1/3 F-5 can be applied directly onto fires of non-polar*² liquids (indirect foam application is usually more efficient and preferable). Foam should be applied gently*⁵ to fires of polar liquids to achieve optimum extinguishing success (see technical leaflet TM 037 "Extinguishing alcohol fires").

Due to its resistant structure, the foam can also be applied to pools of flammable liquids for vapour suppression or as a preventive fire protection measure. An non-expanded application of the premix is only effective on Class A fires under certain conditions.

Medium expansion foam produced from solutions of vaPUREx[®] AR 1/3 F-5 has a homogeneous bubble structure, flows well and is stable.

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 labeled according to hazardous materials regulations.

vaPUREx[®] AR 1/3 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 1/3 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 and also only in 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. On short-term contact and subsequent thorough cleaning with water, vaPUREx[®] AR 1/3 F-5 or a premix solution made from it will not corrode metals such as copper, aluminum, brass, admiralty brass or bronze.

⁵ e.g. via pouring elbows, foam baffles, or roll-on or rain-down technique

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 1/3 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 1/3 F-5 was fully toxicologically tested. All ingredients are readily and completely biodegradable.

Unused product (concentrate) must not be released into the environment. Direct discharge of even the foam solution into the sewage system is not permitted (except where unavoidable in the case of engagement). Disposal must be carried out in consultation with local authorities and specialised waste treatment companies.

Transport

vaPUREx[®] AR 1/3 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/qr/8441>



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.

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