



STHAMEX® MARINE 3% F-20 #9372



SYNTHETIC FOAM CONCENTRATE

STHAMEX® MARINE 3% F-20 is a fluorine free firefighting foam agent which is specially designed to replace fluoroprotein- or AFFF-foam agents for marine applications (e.g. for use in deck-foam systems).

The product has been tested as low - and high expansion foam for fighting fires of non-polar liquids in maritime environments (e.g. tankers, drilling platforms, off shore rigs....) according to IMO MSC.1/Circ. 1312 and ICAO Level B (with seawater). The low viscosity allows the use of commercially available proportioners and dosing equipment down to the lowest application temperature of These properties of STHAMEX® MARINE 3% F-20 make it particularly easy to replace fluorine containing firefighting foam concentrates by a fluorine free one.

This makes STHAMEX® MARINE 3% F-20 to be the No-1 choice for fighting fires of non-polar liquids and solid combustibles on board of sea going units, off shore installations etc.

Performance

STHAMEX® MARINE 3% F-20 consists of novel agents active on surfaces and interfaces, foam stabilizers and antifreeze additives in the selection and sourcing of which great emphasis is put on sustainability. It is a synthetic firefighting foam agent free of organic silicon and fluorine compounds*¹ and preservatives.

Due to the increased freeze protection, STHAMEX® MARINE 3% F-20 can be stored and used outdoors at temperatures well below 0°C.

It foams very well hence is excellent for the production of low - and high expansion foam. It is also very suitable for use with local foam applicator stations and for protection of general deck areas onboard of vessels or rigs. Low expansion foam made from STHAMEX® MARINE 3% F-20 forms an extremely stable, vapor-tight foam blanket consisting of fine and even bubbles which is free-flowing and thus highly effective in extinguishing fires of non-polar*² liquids. The foam blanket suppresses the release vapours, hence very effectively prevents their spread or possible ignition.

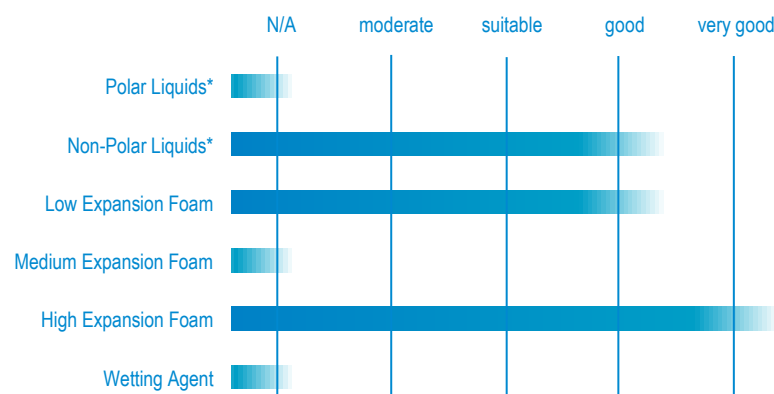
STHAMEX® MARINE 3% F-20 is suitable to generate high expansion foam by the "Inside Air Foam"-technique using hot fumes present in the room (operating independently from fresh air), as well as with all commercially available foam systems and equipment to generate low - and high expansion foam for extinguishment of class A- and -B fires.

Technical Specification

Appearance	colourless/yellow
Fire Class/es	A + B
Lowest Use Temperature	-20 [°C]
Max. Storage Temperature	max. +50 [°C]
Specific Gravity (20°C)	1,050 ± 0,02 [g/ml]
pH value (20°C)	6,5 - 8,5
Viscosity (20°C)	< 20 [mm²/sec]
Sedimentation	Sediment Free

Foam Properties acc. to EN1568 at 20°C

Induction Rate	3%
Expansion Rate	7 - 11, 700 - 1000
25% Drainage Time	1 - 4, 2 - 6 [min]
50% Drainage Time	2 - 6, 5 - 9 [min]
Expansion Types	Low -, High 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/Circ. 670 High Expansion Foam



Notified Body: BG Verkehr - No. 0736
Approval-No.: 201054-00



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

¹ 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).

² flammable liquids that are not miscible with water.

Application

STHAMEX® MARINE 3% F-20 can be expanded to give low - and high expansion foam with all commercially available foam generating systems and -equipment and used as extinguishing foam against fires of class A- and -B fires (e.g. fires of plastics and mineral oil products). In addition to tap water, sea water, brackish water and treated industrial water (without foam-destroying additives) can also be used to generate foam. The proportioning rate to the fire water is 3%.

Low expansion foam made from STHAMEX® MARINE 3% F-20 provides a particularly fine-bubbled, compact and stable foam blanket that sticks well to solid surfaces cooling them and insulating them very effectively against radiant heat. STHAMEX® MARINE 3% F-20 is not suitable for use on polar*³ liquids.

With suitable high-expansion foam generators, STHAMEX® MARINE 3% F-20 produces a very even high-expansion foam with expansion rates of up to 1000:1. The stable high expansion foam is able to fill the fire compartment very quickly and efficiently, displacing room air or fire gases, and can thus quickly smother and cool the fire.

Compatibility

For immediate use (e.g. in case of emergency) STHAMEX® MARINE 3% F-20 can be mixed at any ratio with similar firefighting foam agents. Storage of the mixture is not recommended. 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.

The foam produced from STHAMEX® MARINE 3% F-20 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 STHAMEX® MARINE 3% F-20 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.

³ flammable liquids that are miscible with water.

Environment

STHAMEX® MARINE 3% F-20 is easily and completely biodegradable and free of organic fluorine compounds*¹, preservatives and silicone compounds.

After use, all parts which were in contact to STHAMEX® MARINE 3% F-20 must be thoroughly rinsed with water and cleaned to prevent any product buildup. Dried-in adhesions may require longer time soaking for removal.

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

STHAMEX® MARINE 3% F-20 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/9372>



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 68-0	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	
---	---	--	---	--	--