

TECHNICAL DATA SHEET

PROFILM AR 1-3 All-Purpose Aqueous Film Forming Foam (AR-AFFF 1-3)

**Alcohol-Resistant Aqueous Film Forming Foam (AR-AFFF) Synthetic based
For Use on Hydrocarbon and Polar Solvents fires
Low, Medium, High Expansion**

Composition



- ✓ NO PFOS
- ✓ NO PFOA

This Formulation contains only telomer-based fluorosurfactants with a short chain (C6 or below) that cannot degrade in the environment into PFOA or other PFCA's.

IMPORTANT:

C6 telomer-based fluorosurfactants are NOT bioaccumulative or toxic to the environment.

PROFILM AR 1-3 is a composition of fluorocarbon surfactants, active hydrocarbon surfactants, corrosion inhibitors, and special natural soluble polymers, which enable the formation of an aqueous film on the surface of hydrocarbons and a dense intermediate layer between polar solvents (alcohols, ethers, ketones) and the foam blanket, so preventing the emission of vapours normally destructive to conventional foams.

Principle of Operation



Due to its versatile qualities, **PROFILM AR 1-3** can be used for the extinguishing of hydrocarbon fires, where its optimum film-forming capacity can achieve rapid fire knock-down, or for difficult oxygenated chemical substances, or to prevent the emission of toxic and corrosive vapours.

Induction Ratio



PROFILM AR 1-3 is used at 1% dilution on hydrocarbon fires and 3% dilution on polar solvent fires:

- 1 % (1 L foam concentrate + 99 L water = 100 L foam solution)
- 3 % (3 L foam concentrate + 97 L water = 100 L foam solution)

Method of Application

PROFILM AR 1-3 can be used in direct application (nozzle or monitor) on hydrocarbon fires, and in gentle (indirect) application on polar solvent fires.

Field of Application

PROFILM AR 1-3 all-purpose foam concentrate is primarily designed for:



Petrochemical
industry



Petroleum plants



Chemical products
storage areas



Fire Brigades



Vessels for
transportation of
chemical products



Ports

General Characteristics

PROFILM AR 1-3 conforms to all national and international standards and particularly to European standards EN 1568-1, 2, 3 and 4.

PROFILM AR 1-3 can be used with fresh and sea water.

PROFILM AR 1-3 properties are not impaired in case of freezing. It recovers its initial properties as soon as it is defrosted.

Storage and Shelf-life



PROFILM AR 1-3 has a long shelf life if stored properly in the original intact and unsealed packaging. Its shelf life may exceed 10 years if maintained correctly. As with all foam liquids, storage temperatures and conditions are important factors for optimal shelf life.

If the product becomes frozen during storage or transport, gentle thawing will render the product completely usable and without any impairment of its properties

PROFILM AR 1-3, like other synthetic foam concentrates, is recommended to be stored in stainless steel or plastic containers. Furthermore, since electro-chemical corrosion can occur at joints and unions between different metal types when they are in contact with the foam liquid, it is recommended that any foam concentrate storage systems employ the same materials throughout for tanks, pipelines and fittings.

We recommend following our guidelines to ensure optimal storage conditions.

Physico-Chemical Characteristics

Foam concentrate	u.m.	
Density @ 20°C	kg/l	1.05±0.02
pH @ 20°C		8 ± 1
Viscosity @ 20°C	cPs	≈ 1300
Pour point*	°C	≤ - 5
Undissolved solids	% V/V	≤ 1
Surface tension	mN/m	≤ 18
Interfacial tension solution / cyclohexane	mN/m	≤ 3

* The product is also available in low temperature version with pour point - 15 °C.

Typical Foam Properties

The foam properties of **PROFILM AR 1-3** vary depending on the performance characteristics of foaming equipment used and the operating conditions.

PROFILM AR 1-3 tested in accordance with the EN 1568:1 to 4 gives the following typical properties:

Foam solution %	1%	3%
Expansion Ratio	≥ 6	≥ 9
25% drainage time	≥ 2'30"	≥ 9'00"