

FireFilm®-PA 3% AFFF Environmentally Responsible Formulation

■ Description

FireFilm-PA is a superior quality aqueous film forming foam (AFFF) which is used at **3%** concentration to extinguish fires in hydrocarbon fuels. It has been tested and qualified to meet the stringent requirements of **U.S.Military** Specification and is suitable for use with most types of proportioning equipment and discharge devices.

AFFF foam concentrates are designed for rapid fire knockdown by producing a thin aqueous film which spreads across the surface of the fuel, separating the fuel from oxygen. This is accomplished by allowing the foam solution to quickly drain from the foam bubble which in turn, affects long term sealability and burnback resistance.

The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. The effectiveness of the aqueous film is directly influenced by the surface tension of the fuel. The aqueous film tends to be more effective on fuels with higher surface tension such as diesel and jet fuels, and less effective on fuels with lower surface tension such as hexane and gasoline.

In general, **AFFF** foam concentrates may be used with non aspirating nozzles and sprinklers, however, for best foam expansion and **25%** drainage life, all foam concentrates should be used with aspirating nozzles and foam making discharge devices.

■ Features

- Low energy input **AFFF**-requires minimal agitation.
- Excellent fluidity provides rapid " knockdown ".
- Do not contain **PFOS**.
- Compatible with standard proportioning and foam making devices.
- Suitable for use with foam compatible dry powder extinguishing agents.
- Specially designed for use in extinguisher.

■ Applications

FireFilm-PA is specially designed for use in portable and mobile fire extinguishers, it reach **21A/183B** with 6 Litres extinguishers.

FireFilm-PA is used at **3%** concentration in fire suppression systems and manually to fight fires involving

hydrocarbon fuels such as crude oil, gasoline, and fuel oils. It is not suitable for use on polar solvents or water miscible fuels such as alcohols, ketones, esters, and ethers. Typical installations include foam water sprinkler systems, aircraft hangars, loading racks, process areas, etc.it is also an excellent agent for use and other applications where a premix solution may be needed to remain stable for long periods. A biocide should be added to all premix solutions.

■ Typical Physical Properties

Appearance	Light Amber Color
Specific Gravity at 20°C	1.04
pH	8.0
Viscosity at 25°C	3.0 csk
Freezing Point	- 6°C
Minimum Usable Temperature	2°C
Maximum Usable Temperature	49°C

■ Standard

- Chinese GB15308-2006
- Comply with EN 1568-3

FireFilm-PA has successfully passed **Chinese GB** test criteria for use at **3%** concentration on hydrocarbons, including application through a variety of proportioning and foam making discharge devices using fresh or sea water. Consult Kidde Fire Fighting for a complete list of these devices.

■ Storage and Handling

FireFilm-PA is ideally stored in its original shipping container or in tanks or other containers which have been designed for such foam storage. Recommended construction materials are stainless steel (Type **304L** or **316**), high density cross linked polyethylene, or reinforced fiberglass polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (**50-100** mils).

Foam concentrates are subject to evaporation which accelerates when the product is exposed to air. Storage tanks should be sealed and fitted with a pressure vacuum vent to prevent free exchange of air. The recommended storage environment is within the **UL** Listed temperature range of **2°C** to **49°C**.

FireFilm-PA should not be mixed with other foam concentrates. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of fire fighting capability. Most expanded foams are compatible for side-by-side application during an incident.

FireFilm-PA may be stored as a **3%** premixed solution using fresh water. A biocide agent should be added to prolong storage life of the premix solution. SKFF should be consulted for advice.

FireFilm-PA is suitable for use in combination with foam compatible dry chemical extinguishing agents.

■ Shelf Life, Inspection, and Testing

The shelf life of any foam concentrate is maximized by proper storage conditions and maintenance. Factors affecting shelf life are wide temperature changes, extreme high or low temperatures, evaporation, dilution, and contamination by foreign materials. Properly stored SKFF **AFFF** foam concentrates have been tested and shown no significant loss of fire fighting performance, even after **15** years.

Annual testing of all fire fighting foam is always recommended and SKFF provides a Technical Service Program to conduct such tests. Please contact us for details.

■ Environmental and Toxicology Information

FireFilm-PA is biodegradable. However, as with any substance, care should be taken to prevent concentrate from entering ground water surface water or storm drains. Heavily diluted or finished foams can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal should be made in accordance with state and local regulations. Results of tests for acute oral toxicity and primary skin irritation have proved negative. Repeated skin contact will remove oils from the skin and cause dryness.

FireFilm-PA is a primary eye irritant, and contact with the eye should be avoided. Users are advised to wear protective equipment. If **FireFilm- PA** enters the eyes, flush them well with water and seek immediate medical attention. For further details, please consult Kidde Fire Fighting.

■ Ordering Information

FireFilm-PA is packed in **25** litre or **200** litre high density polyethylene containers sealed with tamper evident caps.

25 litre pails ----- gross weight **27kg**

200litre drums ----- gross weight **219kg**

Palletizing of pails and wooden case packing can be provided upon request.

■ Shipping Cube

25 litre Pail ----- (**0.032cu.m**)

200 litre Drum ----- (**0.326cu.m**)