

## FireFilm®-AR 3% AR-AFFF Environmentally Responsible Formulation

### ■ General Description

Environmentally responsible **FireFilm-AR** is the next generation in Alcohol-Resistant Aqueous Film Forming Foams (**AR-AFFFs**). This new formulation demonstrates SKFF's commitment to superior flexibility, firefighting performance and environmental responsibility.

**FireFilm-AR 3%** is used at **3%** to extinguish hydrocarbon fires and polar-solvent (alcohol) fires, fires from a mixture of these fuels and oxygenated motor fuels.

**FireFilm-AR** is an **AR-AFFF** concentrate with a special biosynthesized polymer. This polymer is designed to fulfill two functions. The first is to form a protective membrane between the fuel and the foam as it contacts the water-miscible fuel, making extinguishment possible. The second function is to make the foam more stable and heat-resistant, resulting in better burnback resistance and sealability compared to conventional **AFFFs**.

### ■ Typical Physical Properties

Appearance	Amber-Colored Viscous Liquid
Specific Gravity @ 25°C	1.025
pH	8.0
Viscosity @ 25°C	2000 cps *
Freezing point	- 10°C
Minimum usable temperature	2°C
Maximum usable temperature	49°C
Expansion	6 ~ 9
25% Drainage time	5 ~ 12 min.
Acetone fire extinction	< 3min.
25% Burnback	>10min.
Solvent gasoline fire extinction	<3min.
25%Burnback	>10min.

**Brookfield # 4 Spindle @ 60rpm.** Viscosity measured under different shear conditions will be different because of pseudoplastic rheology of this non-Newtonian product.

### ■ Applications

**FireFilm-AR** is used in fire suppression systems and manual applications to fight the broadest range of class **B** fires. Its versatility simplifies the extinguishment of unknown class **B** fuels. Typical applications include storage tanks, loading racks, docks, process areas, warehouses, spills, etc. **FireFilm-AR** can also be used as a wetting agent in combating class **A** fires.

### ■ Approvals and listings

- Chinese GB15308-2006

**FireFilm-AR 3%** has successfully passed **Chinese GB** test criteria for use at **3%** concentration on hydrocarbons and polar solvents, including application through a variety of proportioning and foam making discharge devices. Consult SKFF for a complete list of these devices.

### ■ Storage and Handling

**FireFilm-AR 3%** 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 temperature range of **2°C** to **49°C**.

It is recommended that **FireFilm-AR 3%** not be mixed with any other type of foam concentrate in long-term storage. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of its firefighting capability. Most expanded foams are compatible for side-by-side application during an incident.

## ■ 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 **AR-AFFF** foam concentrates have been tested and shown no significant loss of firefighting performance, even after **15** years.

Annual testing of all firefighting foams is always recommended and SKFF provides a Technical Service Program to conduct such tests. Contact us for details.

## ■ Environmental and Toxicology Information

**FireFilm-AR 3%** contains no ingredients reportable under the “**U.S.SARA**” and “**CERCLA**” regulations and **FireFilm-AR 3%** 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 foam can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal or discharge of **FireFilm-AR 3%** concentrate or foam solution 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-AR 3%** is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment.

If **FireFilm-AR 3%** enters the eyes, flush them well with water and seek immediate medical attention.

## ■ Ordering Information

**FireFilm-AR 3%** is packed in **25** litre or **200** litre high density polyethylene containers sealed with tamper evident caps.

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

**200** litre drums ----- gross weight **215** kg

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**)