

## FireFilm<sup>TM</sup> -KF Wet Chemical Special for Kitchen Fire

### ● Description

- FireFilm-KF Solution is a high-performance liquid specifically intended for fires of cooking fat and cooking oil. This type of liquid is frequently referred to as a "Wet Chemical". A particular application of FireFilm-KF is the control and extinction of fire in deep-fat fryers.
- Fires of cooking fat and cooking oil are particularly difficult to extinguish because of the very high temperatures reached during combustion. Attempts to use powder, foam, or carbon dioxide on fat fires can lead to dangerous situations, with explosions, and burning fat being thrown out of the pans being used. Fat is also liable to reignite even after extinction, because of the very high temperatures that the material will have reached during combustion.
- FireFilm-KF is intended for use in portable extinguishers and premix systems. The solution will last for ten years in its unopened container, if maintained between the temperature limits marked on the label.
- FireFilm-KF is a special solution that reacts with the burning fat or oil, and forms a crust over the surface. The spray initially knocks down the flames, and the crust completes extinction. The crust on the surface of the fat or oil also prevents reignition, by blocking contact with the oxygen in the air.

### ● EXTINGUISHING MECHANISM

FireFilm-KF Wet Chemical reacts with burning fat and oil by a mechanism known as saponification. The fat or oil is saponified, and forms a non-flammable product, which crusts over the surface, excluding air.

- Saponification of surface grease (turning it into combustion-resistant soap),
- Cooling effects of water vaporization,
- Inerting effects of resultant steam formation, and
- Interruption of the chemical chain reaction of combustion.

### ● APPLICATIONS

FireFilm-KF is only intended for fires of fat and oil, although it may also be used on fires of solids. For fires of hydrocarbon liquids such as petrol, diesel, or kerosene, use Waysmos Fire Suppression AFFF product.

### ● Typical Physical Properties

Appearance	Colourless Liquid
Specific Gravity, 20°C	1.35 – 1.42
pH 20°C	8.5 – 10.0
Lowest Use Temperature	-20°C
Viscosity, 20°C, centistokes	2.5 – 6.1
Refractive Index, 20°C	1.39 – 1.41

### ● Standard complied with

NFPA Standard 17A, "Standard for Wet Chemical Systems",  
NFPA Standard 96, "Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations",

### ● Storage and Handling

FireFilm-KF is ideally stored in original shipping containers 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)

Wet chemical 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 the free exchange of air. The recommended storage environment is

within temperature range of 2°C to 49°C

It is recommended that FireFilm-KF not be mixed with any other type of extinguishing agent in long term storage. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of firefighting performance.

Low temperature storage may cause crystal due low solubility.

Shanghai Waysmos Fire Suppression should be consulted for advice.

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

### ● Shelf Life, Inspection and Testing

The shelf life of any wet chemical 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 Shanghai Waysmos Fire Suppression concentrates have been tested and shown no significant loss of fire fighting performance, even after 15 years.

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Annual testing of all fire fighting foam is always recommended and Shanghai Waysmos Fire Suppression provides a Technical Service Program to conduct such tests. Contact us for details.

### ● Environmental and Toxicology Information

FireFilm-KF contains no ingredients reportable under the 'U.S. SARA' and 'CERCLA' regulations.

FireFilm-KF is biodegradable. However, as with any substance, care should be taken to prevent discharge 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-KF is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment. If FireFilm-KF enters the eyes, flush well with water and seek immediate medical attention. For further details, see the FireFilm-KF Material Safety Data Sheet.

### ● Ordering Information

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

25 litre pails— gross weight 35 kg

200 litre drums — gross weight 275 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)

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