

SKUM FP 3X3 MG FPAR Foam Concentrate

Description

SKUM FP 3X3 MG FPAR (Fluoroprotein Alcohol Resistant) Foam Concentrate combines hydrolyzed protein with fluorochemical surfactant technologies to provide effective fire and vapor suppression for Class B, polar solvent, and hydrocarbon fuel fires. This protein-based foam concentrate produces a foam blanket with good heat stability and burn-back resistance in fresh, salt, or hard water solution. It is intended for forceful or gentle firefighting applications at 3% solution for hydrocarbon fuels and gentle firefighting applications at 3% solution for polar solvent fuels.

SKUM FP 3X3 MG foam solution utilizes three suppression mechanisms:

- The foam blanket blocks oxygen supply to the fuel
- Liquid drains from the foam blanket and forms a polymeric membrane on a polar solvent fire which suppresses the vapor and seals the fuel surface
- The water content of the foam solution produces a cooling effect for additional fire suppression

TYPICAL PHYSIOCHEMICAL PROPERTIES AT 20 °C

Appearance	Brown clear liquid
Density	1.14 ± 0.02 g/ml
pH	6.0 – 8.0
Refractive Index	1.3950 minimum
Viscosity*	10.0 ± 2.0 cSt
Sediment**	≤ 0.25%
Pour Point	≤ -15 °C
Freeze Point	≤ -18 °C
Storage and Operating Range**	-13 °C to 60 °C

*Cannon-Fenske Viscometer

**EN 1568:2008 protocol

The SKUM FP 3X3 MG FPAR Concentrate formulation contains short-chain, C6 fluorochemicals manufactured using a telomer-based process that does not produce PFOS.



Approvals, Listings, and Standards

SKUM FP 3X3 MG FPAR Concentrate is approved, listed, qualified under, or meets the requirements of the following specifications and standards:

- EN 1568:2008
 - Parts 1,3,4
- IMO MSC.1/ Circ. 1312
- MED Modules B and D
- ICAO
 - Level B



Application

SKUM FP 3X3 MG FPAR Concentrate should be applied with air-aspirating type discharge devices only and is intended for use on both types of Class B fires; hydrocarbon fuels with low water solubility, such as crude oils, gasolines, diesel fuels, and aviation fuels; and polar solvent fuels with appreciable water solubility, such as methyl and ethyl alcohol, acetone, and methyl ethyl ketone. The concentrate may also be used in conjunction with dry chemical agents to provide even greater fire suppression performance.

SKUM FP 3X3 MG Concentrate can be ideal for fixed, semi-fixed, and emergency response firefighting applications such as:

- Docks, on-board marine and helipad systems
- Industrial chemical and petroleum processing facilities
- Fuel or chemical storage tanks
- Truck/rail loading and unloading facilities
- Flammable liquid containment areas
- Mobile equipment

Foaming Properties

SKUM FP 3X3 MG FPAR Concentrate may be effectively applied using most conventional air-aspirating foam discharge equipment at a 3% dilution with fresh, salt, or hard water. For optimum performance, water hardness should not exceed 500 ppm expressed as calcium and magnesium.

The expansion ratio will vary depending on the performance characteristics of the equipment. Air-aspirating discharge devices produce expansion ratios from 6:1 to 12:1, depending on the type of device and flow rate. Typical expansion ratios for foam chambers are in range of 5:1 to 7:1.

TYPICAL FOAM CHARACTERISTICS* (Fresh and Salt Water)

Proportioning Rate	3%
Expansion Ratio	≥ 7.0
25% Drain Time (min:sec)	≥ 5:00
50% Drain Time (min:sec)	≥ 9:00

*per EN 1568-3: 2008 protocol

Proportioning

The recommended operational temperature range for SKUM FP 3X3 MG FPAR Concentrate is -13 °C to 60 °C per EN 1568. This foam concentrate can require special proportioning equipment. It can be correctly proportioned using most conventional, properly calibrated, in-line proportioning equipment such as:

- Balanced and in-line balanced pressure pump proportioners
- Balanced pressure bladder tanks and ratio flow controllers
- Around-the-pump type proportioners
- Fixed or portable in-line venturi type proportioners
- Handline nozzles with fixed eductor/pick-up tubes

Materials of Construction Compatibility

To help avoid corrosion, galvanized pipe and fittings should never be used in contact with undiluted SKUM FP 3X3 MG FPAR Concentrate. Certain materials, such as black iron piping, are also not recommended for use due to the corrosiveness and solids content of protein-based agents. Refer to Johnson Controls Technical Bulletin *Acceptable Materials of Construction* for recommendations and guidance regarding compatibility of foam concentrate with common materials of construction in the firefighting foam industry.

Storage and Handling

SKUM FP 3X3 MG FPAR Concentrate should be stored in the original supplied package (HDPE totes, drums, or pails) or in the recommended foam system equipment as outlined in Johnson Controls Technical Bulletin *Storage of Foam Concentrates*. The product should be maintained within the recommended temperature range. If the concentrate freezes during transport or storage, full product serviceability can be restored upon thaw with gentle re-mixing.

Factors affecting the foam concentrate's long-term effectiveness include temperature exposure and cycling, storage container characteristics, air exposure, evaporation, dilution, and contamination. The effective life of SKUM FP 3X3 MG Concentrate can be maximized through optimal storage conditions and proper handling. SKUM concentrates have demonstrated effective firefighting performance with contents stored in the original package under proper conditions for more than 10 years.

Mixing SKUM FP 3X3 MG Concentrate with other fluoroprotein foam concentrates for long-term storage is not recommended. Different types of foam concentrates (i.e. AFFs and fluoroproteins) should not be mixed together under any circumstances. Use in conjunction with comparable 3X3 fluoroprotein firefighting foam products for immediate incident response is appropriate.

Inspection

SKUM FP 3X3 MG FPAR Concentrate should be inspected periodically in accordance with NFPA 11, EN 13565-2, or other relevant standard. A representative concentrate sample should be sent to Johnson Controls Foam Analytical Services or other qualified laboratory for quality analysis per the applicable standard. An annual inspection and sample analysis is typically sufficient unless the product has been exposed to unusual conditions.

Quality Assurance

SKUM FP 3X3 MG FPAR Concentrate is subject to stringent quality controls throughout production, from incoming raw materials inspection to finished product testing, and is manufactured in an ISO 9001: 2008 certified facility.

Ordering Information

SKUM FP 3X3 MG FPAR Concentrate is available in pails, drums, totes, or bulk shipment.

Part No.	Description	Shipping Weight
F513189C2	20 L Pail	22.1 kg
F513189C1	25 L Pail	27.45 kg
F513189D1	200 L Drum	218.5 kg
F513189T1	1,000 L Tote	1,110 kg

For bulk orders, consult an account representative.

Safety Data Sheets (SDS) are available at www.skum.com

If any foam product is discharged into the environment, efforts should be made to control, contain and collect the discharge for proper disposal, while following all applicable laws, regulations, and codes. Further information regarding the use, discharge, and disposal of firefighting foams can be found at www.skum.com

Note: The converted values in this document are provided for dimensional reference only and do not reflect an actual measurement.

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