

SKUM FP3% EG Fluoroprotein Foam Concentrate

Description

SKUM FP3% EG Fluoroprotein Foam Concentrate combines hydrolyzed protein with fluorochemical surfactants, foam stabilizers (metal salts), bactericide, corrosion inhibitors, freeze point depressants and solvents to provide superior fire and vapor suppression for Class B hydrocarbon fuel fires. This protein-based foam concentrate is intended for forceful or gentle firefighting applications at 3% solution in fresh, salt, or hard water.

SKUM FP3% EG Fluoroprotein foam solution utilizes two suppression mechanisms:

- The foam blanket blocks oxygen supply to the fuel and suppresses fuel vapor. Protein based foam agents produce a foam blanket with very good heat stability and burnback resistance.
- The water content of the foam solution produces a cooling effect for additional fire suppression.

TYPICAL PHYSICOCHEMICAL PROPERTIES AT 20 °C

Appearance	Clear brown liquid
Density	1.12 ± 0.02 g/ml
pH	6.0 – 8.0
Refractive Index	1.3950 minimum
Viscosity*	6.0 ± 4.0 cSt
Sediment**	≤ 0.25%
Pour Point	≤ -12 °C
Freeze Point	≤ -15 °C

*Cannon-Fenske viscometer

**EN1568:2008 protocol

The SKUM FP3% EG Fluoroprotein Foam Concentrate formulation contains short-chain, C6 fluorochemicals manufactured using a telomer-based process that does not produce PFOS.



Approvals, Listings, and Standards

SKUM FP3% EG Fluoroprotein Foam Concentrate is approved, listed, qualified under, or meets the requirements of the following specifications and standards:

- UL Standard 162, Foam Liquid Concentrates
- EN 1568:2008
 - Parts 1, 3
- IMO MSC.1/Circ. 1312
- MED Modules B and D



Application

SKUM FP3% EG Fluoroprotein Foam Concentrate is intended for use on Class B hydrocarbon fuel fires with low water solubility such as crude oils, gasolines, diesel fuels, and aviation fuels. It is not suitable for use on polar 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. This concentrate can be used only with air-aspirating type discharge devices.

SKUM FP3% EG Fluoroprotein Foam Concentrate can be ideal for fixed, semi-fixed, and emergency response firefighting applications such as:

- Hydrocarbon fuel storage tanks
- Hydrocarbon fuel industrial/processing facilities
- Flammable liquid containment areas
- Docks and on-board marine systems
- Low temperature operations

Foaming Properties

SKUM FP3% EG Fluoroprotein Foam Concentrate may be effectively applied using most conventional air-aspirating foam discharge equipment at a 3% dilution with fresh, salt, or hard water.

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 FP3% EG Fluoroprotein Foam Concentrate is -10 °C to 60 °C per UL-162. This foam concentrate 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 a fixed eductor/pick-up tubes

Storage and Handling

SKUM FP3% EG Fluoroprotein Foam 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 FP3% EG Fluoroprotein Foam Concentrate can be maximized through optimal storage conditions and proper handling. SKUM foam concentrates have demonstrated effective firefighting performance with contents stored in the original package under proper conditions for more than 10 years.

Mixing SKUM FP3% EG Fluoroprotein Foam Concentrate with other fluoroprotein foam concentrates for long-term storage is not recommended. Different types of foam concentrates (i.e. AFFFs and fluoroproteins) should not be mixed together under any circumstances. Use in conjunction with comparable 3% fluoroprotein firefighting foam products for immediate incident response is appropriate.

Materials of Construction Compatibility

To help avoid corrosion, galvanized pipe and fittings should never be used in contact with undiluted SKUM FP3% EG Fluoroprotein Foam 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.

Inspection

SKUM FP3% EG Fluoroprotein Foam 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 FP3% EG Fluoroprotein Foam 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 FP3% EG Fluoroprotein Foam Concentrate is available in pails, drums, totes, or bulk shipment.

Part No.	Description	Shipping Weight	Container Volume
F503181C2	20L Pail	22.1 kg	0.0285 m ³
F503181C1	25 L Pail	27.45 kg	0.0329 m ³
F503181D1	200 L Drum	218.5 kg	0.2477 m ³
F503181T1*	1,000 L Tote	1,110 kg	1.398 m ³

For bulk orders, consult an account representative.

*Totes are not UL approved packaging.

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 for dimensional reference only and do not reflect an actual measurement.

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