SKUM ARC 3x3 UG
3%/3% AR-AFFF
Low Viscosity Concentrate

Description
SKUM ARC 3X3 UG (Alcohol-Resistant Aqueous Film-Forming Foam) Low Viscosity Concentrate combines fluoro- and hydrocarbon-surfactant technologies to provide superior fire and vapor suppression for Class B, polar solvent and hydrocarbon fuel fires. The low viscosity of this concentrate enables ease of proportioning in a wide range of equipment such as in-line eductors, balanced pressure systems, built-in systems aboard ARFF (Aircraft Rescue and Fire Fighting) and other emergency response vehicles. This synthetic foam concentrate 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 in fresh, salt, or hard water.

SKUM ARC 3X3 UG foam solution utilizes three suppression mechanisms intended for rapid fire knockdown and superior burnback resistance:
- The foam blanket blocks oxygen supply to the fuel.
- Liquid drains from the foam blanket and forms either:
  - An aqueous film on a hydrocarbon fire, or
  - 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Viscous yellow liquid</td>
</tr>
<tr>
<td>Density</td>
<td>1.03 ± 0.02 g/ml</td>
</tr>
<tr>
<td>pH</td>
<td>7.0 – 8.5</td>
</tr>
<tr>
<td>Refractive Index</td>
<td>1.3600 minimum</td>
</tr>
<tr>
<td>Viscosity*</td>
<td>1000 ± 300 cPs at 25 °C</td>
</tr>
<tr>
<td>Viscosity*</td>
<td>1100 ± 300 cPs at 2 °C</td>
</tr>
<tr>
<td>Sediment**</td>
<td>≤ 0.25%</td>
</tr>
<tr>
<td>Spreading Coefficient</td>
<td>3 dynes/cm minimum at 3% dilution</td>
</tr>
<tr>
<td>Pour Point</td>
<td>-12 °C</td>
</tr>
<tr>
<td>Freeze Point</td>
<td>-14 °C</td>
</tr>
</tbody>
</table>

*Brookfield Viscometer Spindle #4, speed 60 rpm
**EN 1568:2008 protocol

SKUM ARC 3X3 UG Concentrate is a non-Newtonian fluid that is both pseudoplastic and thixotropic; therefore, dynamic viscosity will decrease as shear increases.

The environmentally-mindful SKUM ARC 3X3 UG AR-AFFF Concentrate formulation contains short-chain, C-6 fluorochemicals manufactured using a telomer-based process. The telomer process produces no PFOS, and these C-6 materials do not breakdown to yield PFOA. The fluorochemicals used in the concentrate meet the goals of the U.S. Environmental Protection Agency 2010/15 PFOA Stewardship Program and the current ECHA Directive (EU) 2017/1000.

Approvals, Listings, and Standards
SKUM ARC 3X3 UG Concentrate is approved, listed, qualified under, or meets the requirements of the following specifications and standards:
- UL Standard 162, Foam Liquid Concentrate
  - UL Listed for use with an extensive array of proportioning and discharge equipment, including sprinklers as required by NFPA 16
- EN 1568:2008 – Parts 3, 4
- FM Approval – FM 5130
  - This concentrate is only FM Approved in conjunction with the specific proportioning equipment and discharge devices as shown in the Approval Guide (www.ApprovalGuide.com)

Application
SKUM ARC 3X3 UG Concentrate 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 also has excellent wetting properties that can effectively combat Class A fires. It may also be used in conjunction with dry chemical agents to provide even greater fire suppression performance.

SKUM ARC 3X3 UG Concentrate can be ideal for fixed, semi-fixed, and emergency response firefighting applications such as:
- Fuel or chemical storage tanks
- Industrial chemical and petroleum processing facilities
- Truck/rail loading and unloading facilities
- Flammable liquid containment areas
- Mobile equipment

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**Storage and Handling**

SKUM ARC 3X3 UG 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”. A thin layer up to 6 mm thick of appropriate-grade mineral oil may be applied to the surface of the foam concentrate stored in a fixed, atmospheric storage container to help minimize evaporation. Consult Johnson Controls for further guidance regarding the use of mineral oil to help seal the surface of AR-AFFF concentrates.

The concentrate should be maintained within the recommended operational temperature range. Freezing of the product should be avoided. If, however, the product freezes during transport or storage, it must be thawed and inspected for signs of separation. If separation has occurred, the SKUM ARC 3X3 UG Concentrate should be mechanically mixed until homogeneous, and additional testing may be required after mixing to verify product quality.

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 ARC 3X3 UG Concentrate can be maximized through optimal storage conditions and proper handling.

**Proportioning**

The recommended operational temperature range for SKUM ARC 3X3 UG Concentrate is 2 °C to 49 °C. 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 fixed eductor/pick-up tubes

For immediate use: The concentrate may also be premixed with fresh or sea water to 3% solution for hydrocarbon fuel fires or a 3% solution for polar solvent fuel fires.

For delayed use: Consult Technical Services for guidance regarding suitability of a stored pre-mix solution (fresh water only).

**Materials of Construction Compatibility**

To help avoid corrosion, galvanized pipe and fittings should never be used in contact with undiluted SKUM ARC 3X3 UG Concentrate. 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.

**Quality Assurance**

SKUM ARC 3X3 UG 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 ARC 3X3 UG Concentrate is available in pails, drums, totes, or bulk shipment.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Approximate Shipping Weight</th>
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</thead>
<tbody>
<tr>
<td>F113183C2</td>
<td>20 L Pail</td>
<td>22.1 kg</td>
</tr>
<tr>
<td>F113183C1</td>
<td>25 L Pail</td>
<td>27.45 kg</td>
</tr>
<tr>
<td>F113183D1</td>
<td>200 L Drum</td>
<td>218.5 kg</td>
</tr>
<tr>
<td>F113183T1*</td>
<td>1,000 L Tote</td>
<td>1,110 kg</td>
</tr>
</tbody>
</table>

Part No. F113183T1* 1,000 L Tote represents a bulk shipment order. The concentrations of this product are not UL approved packaging.

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

**Note:** The converted values in this document are provided for dimensional reference only and do not reflect actual measurement. SKUM and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited.