HYDRAL AR 3-3 C
3% x 3% AR-AFFF Concentrate

Description
HYDRAL AR 3-3 C AR-AFFF (Alcohol Resistant Aqueous Film-Forming Foam) Concentrate combines fluoro-and hydrocarbon-surfactant technologies to provide superior fire and vapor suppression for Class B, polar solvent and hydrocarbon fuel fires. This synthetic foam concentrate is intended for forceful or gentle firefighting applications at 3% solution on hydrocarbon fuels and for gentle firefighting applications at 3% solution on polar solvent fuels in fresh, salt, or hard water. The dual 3% solution level for HYDRAL AR 3-3 C minimizes the product required to protect against hydrocarbon and polar solvent fuel fire hazards.

HYDRAL AR 3-3 C 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 AT 20 °C
- Appearance: Viscous amber liquid
- Density: 1.05 ± 0.02 g/ml
- pH: 7.0 – 8.5
- Refractive Index: 1.3880 minimum
- Viscosity*: 2,300 ± 300 cPs
- Sediment**: ≤ 0.25%
- Spreading Coefficient: 3 dynes/cm minimum at 3% dilution
- Pour Point: ≤ -15 °C
- Freeze Point: ≤ -18 °C
- Storage and Operating Range**: -13 °C – 60 °C
- *Brookfield viscometer, Spindle #4, Speed 60 rpm
- **EN 1568:2008 protocol

HYDRAL AR 3-3 C Concentrate is a non-Newtonian fluid that is both pseudoplastic and thixotropic; therefore, dynamic viscosity will decrease as shear increases.

The HYDRAL AR 3-3 C AR-AFFF Concentrate formulation contains short-chain, C6 fluorochemicals manufactured using a telomer-based process that does not produce PFOS.

Approvals, Listings, and Standards
HYDRAL AR 3-3 C AR-AFFF Concentrate is approved, listed, qualified under, or meets the requirements of the following specifications and standards:
- EN 1568:2008 – Parts 1, 2, 3, 4
- ICAO – Level B
- IMO MSC. 1/Circ. 1312
- MED Modules B and D

Application
HYDRAL AR 3-3 C AR-AFFF 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. It may also be used in conjunction with dry chemical agents to provide even greater fire suppression performance.

HYDRAL AR 3-3 C Concentrate can be ideal for fixed, semi-fixed, and emergency response firefighting applications such as:
- Docks, on-board marine, and helipad systems
- Fuel or chemical storage tanks
- Industrial chemical and petroleum processing facilities
- Truck/rail loading and unloading facilities
- Flammable liquid containment areas
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, or is suspected, the HYDRAL AR 3-3 C Concentrate should be mechanically mixed until homogeneous, and additional testing may be required after mixing to verify product quality. Factors affecting foam concentrate’s long-term effectiveness include temperature exposure and cycling, storage container characteristics, air exposure, evaporation, dilution, and contamination. The effective life of HYDRAL AR 3-3 C Concentrate can be maximized through optimal storage conditions and proper handling. SABO FOAM concentrates have demonstrated effective firefighting performance with contents stored in the original package under proper conditions for more than 10 years.

Mixing HYDRAL AR 3-3 C Concentrate with other foam concentrates for long-term storage is not recommended. Use in conjunction with comparable 3x3 AR-AFFF products for immediate incident response is appropriate.

**Inspection**

HYDRAL AR 3-3 C AR-AFFF 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**

HYDRAL AR 3-3 C AR-AFFF 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**

HYDRAL AR 3-3 C AR-AFFF Concentrate is available in pails, drums, totes, or bulk shipment.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Shipping Weight</th>
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</thead>
<tbody>
<tr>
<td>F113389C2</td>
<td>20 L Pail</td>
<td>22.1 kg</td>
</tr>
<tr>
<td>F113389C1</td>
<td>25 L Pail</td>
<td>27.45 kg</td>
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<tr>
<td>F113389D1</td>
<td>200 L Drum</td>
<td>218.5 kg</td>
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<tr>
<td>F113389T1</td>
<td>1,000 L Tote</td>
<td>1,110 kg</td>
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</tbody>
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For bulk orders, consult an account representative.

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

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