

New

## Newtonian low viscosity alcohol-resistant fluoroprotein FP-AR foam concentrate for 3% application on both hydrocarbon fires and polar liquid fires

### Description

**UNIVEX 3x3 Super** is a totally new formulated universal foam for severe and diversified Marine applications. It is a superior alcohol resistant fluoroprotein foam concentrate (FP-AR) for extinguishing flammable hydrocarbon and polar solvent liquid fires at a unique 3% induction ratio.

**UNIVEX 3x3 Super** protein base provides highly stable foams with drainage times that do not suffer from extreme heat conditions in large tank fires. Unlike other alcohol resistant like AR-AFFF foam concentrates, it has the fluidity and low viscosity of a regular protein foam concentrate.

**UNIVEX 3x3 Super** is the right choice for maximum safety and cost-effectiveness for hydrocarbons and polar solvent fires.

### Performance

**UNIVEX 3x3 Super** is measured against specifications and standards such as IMO circular 582 on Heptane and 799 on both Acetone and Isopropanol Polar Solvents. It meet also the additional DNV requirement on retention survey required for Alcohol resistant protein based foams.

When used with fresh or salt water or water of any hardness at the correct dilution and with most conventional foam making equipment, 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 primarily on type and flow rate. In general, the higher the flow rate the higher the expansion ratio.

Typical expansion ratios for air aspirating foam nozzles are in the range of 5:1 to 7:1, and for foam water monitors in the range of 4:1 to 8:1.

### Application

**UNIVEX 3x3 Super** AR-Fluoroprotein Foam Concentrate is intended for use on any Class B flammable liquids both on hydrocarbon fuels having low water solubility (crude oils, gasolines, diesel fuels, aviation fuels, etc.) and is also suitable for use on Polar solvent fuels having water solubility (Acetone, Isopropanol, MTBE, ... ). This concentrate can be used only with air aspirating type discharge devices.

It can also be used with foam compatible dry chemical extinguishing agents without regard to the order of application, to provide even greater fire protection capability.

**UNIVEX 3x3 Super** can be used by most conventional foam equipment such as:

- Balance pressure pump proportioning equipment
- Bladder tank and related proportioners
- Around-the-pump proportioners
- Fixed and portable In-line venturi type inductors
- Fixed or handline nozzles with fixed induction/pick up tubes



### Approvals

**UNIVEX 3x3 Super** is tested and approved according to:

- IMO Msc Circ 582
- IMO Msc Circ 799

### Storage and shelf life

**UNIVEX 3x3 Super** has an operational temperature range of  $-13^{\circ}\text{C}$  and  $+60^{\circ}\text{C}$ . Limited exposure to temperatures above  $+60^{\circ}\text{C}$  does not affect the firefighting performance.

When stored in the packaging supplied (polyethylene drums or pails) within the temperature limits specified, or in equipment recommended by the manufacturer as part of the foam system, the shelf life of **UNIVEX 3x3 Super** Fluoroprotein Foam Concentrate is generally in excess of 10 years.

The factors affecting shelf life and stability for SABO Foam agents are discussed in detail in our Technical Bulletin for storage recommendation.

If the product is frozen during storage or transportation, the concentrate should be thawed and used without any degeneration of the performance.

### Safety and handling

See our corresponding "Material Safety data sheet".

### Compatibility

There are no specifications or standards which address the subject of compatibility of different manufacturer's brands of fluoroprotein alcohol resistant foam concentrates. In an emergency or if the manufacturer has supporting test data to substantiate that the mixture meets the same requirements as the individual component concentrates, they may be mixed together in the same storage vessel.

Different types of foam concentrates, i.e., AFFF and fluoroprotein base should not be mixed under any circumstances.

### Quality insurance

**UNIVEX 3x3 Super** – as with all TYCO Products – is subject to a very stringent quality controls throughout all stages of production, from incoming raw to the complete product and is manufactured in an ISO 9001:2000 controlled facility. Quality assurance is therefore guaranteed.

### Typical properties

<b>UNIVEX 3x3 Super</b>	FP AR 3x3
<b>Fire Classes</b>	B
<b>Shape and color</b>	Brown, clear liquid
<b>Smell</b>	Characteristic, protein
<b>Density (20°C)</b>	1,13 ±0.02 [g/ml]
<b>pH (concentrate, 20°C - IMO 3.5)</b>	7,0 ±0.5
<b>Viscosity 20°C (IMO 3.4)</b>	5.0 ±2.0 [mm <sup>2</sup> /s]
<b>Sediment (IMO 3.3)</b>	≤ 0,25 [%]
<b>Admixing ratio</b>	3 [% Vol.]
<b>Expansion Ratio (IMO 3.7)</b>	≥ 7,0
<b>Drain Time 25%, (20°C, IMO 3.8)</b>	≥ 5:00 [min:s]
<b>Drain Time 50%, (20°C, IMO 3.8)</b>	≥ 9:00 [min:s]
<b>Expansion</b>	Low, Medium
<b>Freezing Point</b>	≤ -18 [°C]
<b>Pour Point</b>	≤ -15 [°C]
<b>Recommended storage/Usage temperature</b>	-13 to +60 [°C]

### Ordering information

**UNIVEX 3x3 Super** can be supplied in cans, drums, totes or Bulk (contact us for Bulk delivery).

Part No. F513353C2	20 Liter can
Part No. F513353C1	25 Liter can
Part No. F513353D1	200 Liter drum
Part No. F513353T1	1000 Liter tote