BoldFoam®

TECHNICAL INFORMATION

B33

AR-AFFF CONCENTRATE 3X3%

DESCRIPTION

BoldFoam B33 is a Synthetic Aqueous Film Forming Foam (AFFF/AR) Concentrate, formulated from hydrocarbon and fluorochemical surfactants, and a high molecular weight polymer, along with solvents.

The AFFF solution requires relatively low energy to expand it into foam and the liquid which drains from the foam has the unique ability to form an aqueous film on most hydrocarbon fuel surfaces or a polymeric membrane on polar fuel surface. This film or membrane avoids contact with the oxygen and works to help prevent to release of fuel vapor. The water content of the foam produces a cooling effect.

Suitable for use as a 3%, with fresh, sea or brackish water.

APPLICATION

BoldFoam B33 should be used with an induction rate of 3% for Class B fires (hydrocarbon or polar fuels).

Its excellent wetting characteristics make it useful in combating Class A fires as well.

It can be used with low, medium and high expansion foam equipment (foam chambers, nozzles…) and non-aspirating discharge devices (handline water fog/stream nozzles or standard sprinkler heads).

Aspirated AFFF results in higher expansion ratios, in longer 25% drainage times and in 25% burnback times than non-aspirated. Non-aspirated AFFF does have several advantages over the use of aspirated AFFF in situations which involve low vapour pressure fuels and rescue operations which involve dangerous for life.

PROPORTIONING

BoldFoam B33 can be easily proportioned using most conventional proportioning equipment such as:

*Balanced pressure pump and bladder tank proportioners, around the pump type and ventures proportioners, and hanline nozzles with fixed induction/pickup tubes.

TYPICAL PHYSICAL PROPERTIES OF CONCENTRATE

Appearance	Viscous Clear Yellow Liquid	
Density, g/cm^3	1,04±0,01	
pH	8,0±1	
Viscosity (Brookfield), mPa.s:		
	375 s^{-1}	75 s^{-1}
20ºC	70-90	240-280
0ºC	90-120	300-340
Freezing Point	<-5°C	

PROPERTIES OF FOAM SOLUTIONS

Induction Rate	3 %
Surface Tension, mN/m	17±1
Interfacial Tension(Cicloh.), mN/m	2±1
Low Expansion Rate	≥6,5
Drainage Time, 25%, min	≥7’
Medium Expansion Rate	≥90
Drainage Time, 25%, min	≥5’
High Expansion Rate	≥300
Drainage Time, 25%, min	≥2’

FIRE PERFOMANCE

BoldFoam B33 is certified according the requirements:

- EN 1568-3:2008 (Class IA)
- EN 1568-4:2008 (Class IA)

BoldFoam B33 fulfils the requirements EN 1568-1.

COMPATIBILITY WITH OTHER CONCENTRATES

The NFPA standards (NFPA 412, Paragraph 214 and NFPA 11B, 1-5.2) prohibits the mixing of AFFF concentrates unless it has been determined that they are compatible.

The MIL-F24385C standard provides a formalized method of compatibility determination but the Freeze Protected AFFF fall outside the military specification.

vs FOCUM recommends the following test: BoldFoam products are considerated compatible in all proportions with the concentrates furnished by other manufacturers when the mixture of them, after to have been aged 10 days at 65°C, maintain its properties of foamability, film formation, sealability and fire perfomance at least equal of the worst concentrate involved in the mixture and to use the higher induction rate and to the higher minimum usable temperature of the mixing concentrates.

BoldFoam B33 may be applied to fires simultaneously with other foam solutions and dry chemical fire fighting agents.

MATERIALS OF CONSTRUCTION COMPATIBILITY

BoldFoam B33 is compatible with pipe manufactured from various Stainless Steel or Brass Compounds. Other recommended materials are Polyethylene and Aluminum.

Galvanized pipe and fittings must not be used in areas where undiluted concentrate will contact them since corrosion will result.

SHELF LIFE

The factors affecting shelf life and stability for this foam concentrate are: wide temperature changes, handling procedures, extreme high or low temperatures and contamination by odd materials.

Its shelf life is about 20-25 years if the storage is in accordance with vs FOCUM´s recommendations.

The premixed solutions storage is not recommended.

According NFPA 11 (12.6), samples of foam concentrates shall be sent to the manufacturer or qualified laboratory for quality condition testing at least annually.

STORAGE AND HANDLING

BoldFoam concentrate should be stored in the original shipping container or in other special containers designed for this type of products (stainless steel or epoxy lined tanks).

Place the storage container in an area at temperatures between -5°C to 50°C.

If the product is frozen during storage or transportation, thawing will render the product completely usable. Mixing after freeze thaw cycle is recommended.

ENVIRONMENTAL/TOXICOLOGICAL PROPERTIES

1.-Aquatic Toxicity.

The aquatic life is not adversely affected when BoldFoam is used neither sensitive species nor tolerant ones.

2.-Biodegradability.

The theoretical biodegradability is measured with two different tests: BOD over a five day period and COD; but for AFFF solutions BOD tests are conducted for a twenty day period because there is a lag phase in the bacterial population growth curve as the bacteria become acclimated to the chemicals in AFFF. The biodegradability is the ratio of BOD to COD: BOD_{20}/COD.

A concentrate is considered easily biodegradable when the following ratio: DBO_{28}/DQO above 0,65. BoldFoam products are well above this level and then they are easily biodegradable.

3.-Sewage Treatment Plant Treatability.

Because BoldFoam products have a low biological oxygen demand (BOD), not is necessary an additional contribution of oxygen to treatment plant.

BoldFoam B33 is not particularly toxic to the microbial populations normally found in treatment plants.

Compatible with the treatment plant´s flora Anti-foam agents may be used to reduce foaming in waste streams.

4.-Nutrient Loading.

Not is expected an algal bloom may occur because BoldFoam B33 contain no sources of nitrates or phosphates and it is extremely low in total organic carbon.

ORDERING INFORMATION

BoldFoam products are available in plastic Pail (20, 25 or 60 l), Drum (200 l.), Container (1000 l.) and Bulk.