BoldFoam®

TECHNICAL INFORMATION

A+ CLASS A CONCENTRATE

DESCRIPTION

The composition of BoldFoam A+ is based on a mixture of synthetic hydrocarbon surfactants together with solvents, stabilizers, anticorrosive agents and other additives that form a homogeneous mixture of low viscosity and low freezing point.

When adding water in concentrations as low as 0,1%, the aqueous solution receives excellent wetting characteristics that make it fit for fighting for Class A fires (solids). This means a severe reduction of the contact angle between the aqueous solution and the combustible material normally found in urban and wildfires (coal, wood, cardboard, paper, rubber, plastic…). The surfactant components have to be mixed equally to reach this wetting effect.

The triple effect on water of this additive can be summarized as follows:

1. It speeds up the extinguishing process, as less water is used to fight the fire than without the additives.
2. It goes deeper into the combustible material which results in a more secure and effective extinguishing. It avoids glowing, which usually results in burnback.
3. A stable and homogeneous foam is formed easily because of its surfactants' characteristics. The drain-time of the foam with fresh or sea water is low which provides an additional protection.

APPLICATION

BoldFoam A+ can be used in a concentration range of 0,1-0,3% as a humectant and 0,3-2% as foaming, with potable, sea or brackish water for Class A (solid) fires and Class B (hydrocarbon fuels) using low, medium and high expansion equipment.

It has no negative effect on reforestation of the areas where it was used because it does not contain elements harmful for the soil.

BoldFoam A+ has been designed to obtain its optimal potential when it is used with CAFS. These systems produce a very uniform foam with small bubbles and great structural stability in concentrations as low as 0,2% to 0,5% with fresh or sea water. This kind of foam allows for a much faster control of the fire and a bigger resistance against burnback.

The use of wet foam (less air, expansion index is ≤10) is recommended for extinguishing fires and dry foam (more air, expansion index of 20) for posterior security application.

The latter type of structural foam permits its fixing on vertical surfaces (installations, walls, trees…) and so allows for an additional protection.

DOSAGE

The use of electronic proportioners, especially with CAFS, is recommended as they are exact and reliable also at low concentrations.

PHYSICAL PROPERTIES OF CONCENTRATE

Appearance	Amber Liquid
Density, 20ºC g/cm^3	1,030 ± 0,005
pH, 20ºC	7,5±0,5
Kinematic Viscosity mm^2/s	
• 20ºC	20 ± 5
Freezing Point	≤-15ºC

PROPERTIES OF FOAM SOLUTION

Induction Rate	0,1%-2%
Surface Tension (1%, D.W.), mN/m	≤30
Low Expansion Index (0,3%, F.W.)	≥7
Medium Expansion Index (0,5%, F.W.)	≥60
Low Expansion Index (1%, F.W.)	≥8
Drainage Time, 25%	≥3´
Medium Expansion Index (1%, F.W.)	≥100
Drainage Time, 25%	≥2´
High Expansion Index (1%, F.W.)	≥400
Wetting Time (0,3%, D.W.)	≤45´´

*D.W.: Deionized water / F.W.: Fresh water

FIRE PERFORMANCE. APPROVALS

BoldFoam A+ is certified according to:

- **EN 1568-1:2018** (0,5%, fresh water) and **EN 1568-3:2018 Standards** (0,3%, **IIIC** classification)
- **Environmental Impact** (INIA)
- **Fire Performance** (INIA)

BoldFoam A+ fulfils the requirements of **EN 1568-2:2018**.

COMPATIBILITY WITH OTHER CONCENTRATES

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

VS FOCUM recommends the following test: BoldFoam products are considered compatible in all proportions with the concentrates supplied by other manufacturers, when their mixture maintains its properties of foamability, wetting and fire performance to the same extent as the worst concentrate involved in the mixture, after an aging period of 10 days at 65ºC at least.

Furthermore, the mixture should always be used with the higher induction and for the higher minimum temperature of use of the mixed concentrates.

COMPATIBILITY WITH MATERIALS

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

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

SHELF LIFE

The factors affecting shelf life and stability for this foam concentrate are the following: big temperature changes, handling procedures, extremely high or low temperatures and contamination by unknown materials.

Its shelf life is about 20-25 years if the storage is done according to the recommendations of VS FOCUM.

According to NFPA 11 (12.6), samples of foam concentrates shall be sent to the manufacturer or qualified laboratory for quality condition testing at least annually if the foam concentrate is not stored in its original container.

STORAGE AND HANDLING

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

Place the storage containers in an area at temperatures between –12ºC to 50ºC.

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

Aquatic Toxicity: The aquatic life, neither sensitive species nor tolerant ones, is not adversely affected by the use of BoldFoam A+ at dosage of use. BoldFoam A+ has undergone Ecotoxicological Investigations.

Persistence and Degradability: BoldFoam A+ does not contain persistent organic substances. BoldFoam A+ has a TOPA test (TOP – Total Oxidisable Precursor). BoldFoam A+ is a fluorine-free foam. BoldFoam A+ presents an aerobic biodegradability at 28 days of 99%, which makes it a product “Excellent biodegradable in 28 days”.

Sewage Treatment Plant Treatability: BoldFoam A+ 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.

Nutrient Loading: An algal bloom is not expected as BoldFoam A+ contains no sources of nitrates or phosphates. Furthermore, 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.