

SHORT-TERM RETARDANT, CLASS A

1. DESCRIPTION

The composition of WhitEx 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.

The concentration of use is 0,1% to 1,0% with fresh, sea or brackish water.

2. APPLICATION

WhitEx can be used at 0,1-3% for Class A fires (solids) using low, medium and high and medium expansion devices.

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

It can be used with aspirating and non-aspirating discharge devices (handline water fog/stream nozzles or standard sprinkler heads) or with compressed air foam systems (CAFS).

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.

3. DOSAGE

The use of electronic proportioners, especially with CAFS, is recommended as they are exact and reliable also at low concentrations. Nonetheless, it can be proportioned using most conventional proportioning equipment too.

4. TYPICAL PHYSICAL PROPERTIES OF CONCENTRATE

Appearance	Amber Liquid
Density, 20°C, g/cm ³	1,020 ± 0,01
pH, 20°C	7,5 ± 1,0
Kinematic Viscosity mm ² /2:	
• 20°C	≤25
Freezing Point	≤-8°C

5. PROPERTIES OF FOAM SOLUTIONS

Induction Rate	0,1%-3%
Surface Tension, (1%, D.W.), mN/m	≤30
Low Expansion Index (1%, F.W.)	≥8
Drainage Time, 25%	≥6'
Medium Expansion Index (1%, F.W.)	≥100
Drainage Time, 25%	≥6'
High Expansion Index (3%, F.W.)	≥300
Drainage Time, 25%	≥6'

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

6. FIRE PERFORMANCE. APPROVALS

WhitEx is certified according to:

- **Fire Performance** (INIA)
- **EN 1568-1:2008**
- **EN 1568-3:2008** (IIID classification)

WhitEx fulfils the requirements of the **EN 1568-2:2018** Standard.

7. 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: WhitEx 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 65°C 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.

8. MATERIALS OF CONSTRUCTION COMPATIBILITY

WhitEx is compatible with pipe manufactured from various Stainless Steel (304 and 316) 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.

9. 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.

Annual testing of all firefighting foams is recommended by the National Fire Protection Association (NFPA) if the foam concentrate is not stored in its original container.

10. STORAGE AND HANDLING

WhitEx 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 -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.

11. ENVIRONMENTAL / TOXICOLOGICAL PROPERTIES

Aquatic Toxicity: WhitEx at dosage of use is "Relatively Harmless" for species as Daphnia, Fish and Algae. WhitEx has undergone Ecotoxicological Investigations.

Persistence and degradability: WhitEx does not contain persistent organic substances. WhitEx is a fluorine-free foam. WhitEx has a TOPA test (TOP – Total Oxidisable Precursor) and PFT Analysis. WhitEx has a biodegradability at 7 days up to 98% and 14 days up to 99%, so it is a "Fully biodegradable" foam concentrate.

Sewage Treatment Plant Treatability: WhitEx 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 WhitEx contains no sources of nitrates or phosphates. Furthermore, it is extremely low in total organic carbon.

12. ORDERING INFORMATION

WhitEx is available in plastic Pail (20, 25 or 60 l.), Drum (200 l.), Container (1000 l.) and Bulk.

