



### SILVARA III FIRE FIGHTING FOAM CLASS A, B, 3%

#### 1. DESCRIPTION

Silvara III is a fluorine free low viscosity Newtonian foam concentrate to extinguish hydrocarbon fuels fires and solids.

Silvara III is formulated with solvents, hydrocarbon surfactants and additives. Silvara III does not contain any type of organohalogen compound, it is easily biodegradable and responsible with the environment.

Silvara III forms resistant foam to isolate the fuel from the oxygen and extinguish the fire. Fire performance of Silvara III is similar to fluorine foam concentrates in hydrocarbon fuels fires. It is an alternative to the use of AFFF products.

It is suitable for use at 3% with fresh, sea or brackish water.

#### 2. APPLICATION

Silvara III should be used in fresh water to extinguish class B fires (hydrocarbon fuels). It is not suitable to use on polar fuels.

It is useful to combat class A fires (solids) because of its excellent wetting properties.

It should be used with aspirating discharge devices (foam chambers, nozzles...) with low, medium or high expansion.

Application of Silvara III by foam achieves excellent extinguishing and reignition times in hydrocarbon fuels fires. Obviously, since it is not a film forming foam, the application with fog/stream nozzles is not as effective as with AFFF foam concentrates.

#### 3. DOSAGE

Silvara III can be easily proportioned using most conventional proportioning equipment such as: Balanced pressure pump and bladder tank proportioners, around the pump type and venturuses proportioners, and handline nozzles with fixed induction/pickup tubes.

#### 4. PHYSICAL PROPERTIES OF FOAM CONCENTRATE

Appearance	Amber liquid
Density, 20°C, g/cm <sup>3</sup>	1,052 ± 0,01
pH, 20°C	8,0 ± 1,0
Kinematic Viscosity, 20°C mm <sup>2</sup> ·s <sup>-1</sup>	≤ 10
Freezing point	≤ -2° C

#### 5. PROPERTIES OF FOAM SOLUTION

Surface tension, (3%, D.W.), mN/m	≤ 30
Low expansion index (3%, F.W.)	≥ 6
Drainage Time, 25%	≥ 3'
Medium expansion index (6%, F.W.)	≥ 100
High expansion index (6%, F.W.)	≥ 280

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

#### 6. FIRE PERFORMANCE

Silvara III is certified according to standard EN 1568-3:2018 Class IB (Fresh water). It also fulfils the requirements of EN 1568-3:2018 Class IIIC (Sea water).

Silvara III fulfils standard EN 1568-3:2018 (6%) with diesel as fuel, Class I+A (Fresh and Sea water).

## 7. 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: Silvara products are considerate compatible in all proportions with the concentrates furnished by other manufacturers when the mixture of them, after having been aged 10 days at 65°C, maintain its properties of foamability and fire performance 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.

## 8. COMPATIBILITY WITH MATERIALS

Silvara III is compatible with Standard Carbon Steel “black” pipe and pipe manufactured from various Stainless Steel (304 and 316) or Brass Compounds. Other recommended materials are Polyethylene and Aluminium. Avoid using galvanized pipes and fittings, it can cause corrosion.

## 9. 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. 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.

## 10. STORAGE AND HANDLING

Silvara 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 0°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 AND TOXICOLOGICAL PROPERTIES

Aquatic Toxicity: Silvara III at concentration of use is “Relatively Harmless” for species as Daphnia, Fish and Algae.

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

Sewage Treatment Plant Treatability: Silvara products are 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 Silvara products contain no sources of nitrates or phosphates. Furthermore, it is extremely low in total organic carbon.

## 12. ORDERING INFORMATION

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

