



SILVARA K3 FIRE FIGHTING FOAM CLASS A, B

1. DESCRIPTION

Silvara K3 is a fluorine free low viscosity Newtonian foam concentrate to extinguish hydrocarbon fuels fires and solids.

Silvara K3 is formulated with solvents, hydrocarbon surfactants and additives. Silvara K3 does not contain any type of silicone or organic halogen compound (fluorinated surfactant or fluoropolymer). It is easily biodegradable and responsible with the environment.

Silvara K3 forms resistant foam to isolate the fuel from the oxygen and extinguish the fire. Silvara K3 is suitable for use with fresh, sea or brackish water.

2. APPLICATION

Silvara K3 is specially designed for use at 3% in kerosene Jet A1 and other hydrocarbon fuels for fires Class B. It is not suitable to be used on polar fuels.

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

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

Application of Silvara K3 by foam achieves both excellent extinguishing and reignition times in hydrocarbon fuel fires. Silvara K3 can be used with any device (aspirating or non-aspirating) in the same way and with the same application rate than an AFFF foam concentrate, due to its ability to form a high quality, compact, fluid and oleophobic foam. As Silvara K3 does not contain any filmogen fluorosurfactant, it is impossible to get an aqueous film above the hydrocarbon. However, it is not necessary

since even a thin layer of foam will be enough to seal the fuel and avoid the evaporation and reignition.

3. DOSAGE

Silvara K3 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	1,070±0,01 g/cm ³
pH, 20°C	8,0±1,0
Kinematic Viscosity, mm ² /s. ≤ 10 20°C	
Freezing point	≤ -3° C

5. PROPERTIES OF FOAM SOLUTION

Induction rate	3%
Surface tension, mN/m (3%, deionized water)	≤ 25
Low expansion index (3%, fresh water)	≥ 7
Drainage Time 25%	≥ 2'

6. FIRE PERFORMANCE

Silvara K3 is certified by MPA Dresden according to ICAO Standard: Level B (3% fresh water) and ICAO Standard: Level B (3% sea water) by Bureau Veritas, in both cases with kerosene Jet A1.

Silvara K3 is certified by Bureau Veritas according to EN 1568:2018 part 3 (3% fresh water, IIIB classification).

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 K3 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 if the foam concentrate is not stored in its original container.

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: Aquatic life is not negatively affected in sensitive or tolerant species when Silvara K3 is used in the concentration of use. Silvara K3 has undergone Ecotoxicological Investigations.

Persistence and degradability: Silvara K3 does not contain persistent organic substances. Silvara K3 is a fluorine-free foam. Silvara K3 has a TOPA test (TOP – Total Oxidisable Precursor). Silvara K3 is expected to present an excellent biodegradability.

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.

