

DESCRIPTION

SILV-EX® is a low, medium, and high expansion, Class A foam concentrate formulated from specialty hydrocarbon surfactants, stabilizers, corrosion inhibitors and solvents. This formulation provides extremely good cold weather performance. The **original** forest fire control concentrate, SILV-EX has been proven effective on many deep seated Class A fires such as tire fires, paper fires, coal fires, structure fires, and wild fires.

SILV-EX foam concentrate can be proportioned from 0.1% to 1.0% in fresh, brackish or sea water. When used as a pre-mixed solution, only fresh or potable water should be used if the premix is to be stored over long time periods. Due to its extremely low proportioning rate, SILV-EX foam concentrate offers outstanding economy in: concentrate storage space, cost (compared to conventional 3% and 6% foaming agents) and water hauling requirement.

Example:

How much SILV-EX concentrate is required to make 500 gallons of foam solution?

Final solution volume X Concentration percentage = Foam concentrate required

At 0.1% concentration:

500 gal. X .001 = 0.5 gal. of concentrate

At 0.6% concentration:

500 gal. X .006 = 3 gal. of concentrate

At 1.0% concentration:

500 gal. X .01 = 5 gal. of concentrate

Fire extinguishment mechanisms in effect when using SILV-EX "Class A" Fire Control Concentrate include:

- Reduction of the surface tension of water, which provides the SILV-EX solution with superior wetting and penetrating characteristics. This renders Class A fuels less combustible and allows the solution to penetrate past the char to control deep seated fires.
- Extended drain time provides longer surface wetting, reducing the risk of ignition/reignition.
- SILV-EX agent creates a foam blanket which provides an insulating barrier between the fuel and air.
- SILV-EX foam suppresses combustible vapors while cooling the fuel.

In addition, SILV-EX concentrate offers fire fighting protection characteristics:

- The brilliant white foam reflects heat.
- SILV-EX solution creates a dense foam blanket with excellent insulating properties.

EXTINGUISHING AGENT DATA SHEET

- SILV-EX foam clings to vertical surfaces for structure protection.
- The wetting and penetrating characteristics of the SILV-EX solution reduce the combustibility of Class A fuels and makes water 5 times more effective.

Applicable extinguishment mechanisms and some properties of SILV-EX foam depend on the type of foam delivery device used. The solution does not destroy or retard new forest growth, will not harm fish or wildlife, is biodegradable in soils, aquatic ecosystems, and sewage treatment facilities and has no EPA reportable contents.

Typical Physiochemical Properties at 77 °F (25 °C)

Appearance	Clear Pale-Yellow Liquid
Density	1.010 gm/ml ± .006
pH	7.0 to 8.5
Refractive Index	1.4085 ± .0025
Viscosity	18.72 ± 2.50 centistokes
(Viscosity at 12 °F (-11 °C))	(266.00 ± 2.50 centistokes)
(For comparison purposes, the viscosity of 10W40 motor oil is 160 centistokes at 77 °F and 800 centistokes at 12 °F.)	
Surface Tension	
Water	66 to 76 dynes/cm
0.1% SILV-EX solution	25.68 dynes/cm
0.6% SILV-EX solution	22.92 dynes/cm
1.0% SILV-EX solution	22.74 dynes/cm

APPLICATION

SILV-EX concentrate is designed specifically for use on Class A fuel fires including wood, paper, coal and rubber. SILV-EX foam gives the fire fighter: extinguishment capabilities, exposure protection, and increased safety.

Although designed for Class A fires, SILV-EX foam can be effective on some Class B flammable liquid fires when applied from medium and high expansion devices.

SILV-EX solution can be used with aspirating and non-aspirating discharge devices, compressed air foam systems (CAFS) or dropped from fixed or rotary wing aircraft.

PERFORMANCE

Standards/Specifications – The performance of SILV-EX concentrate is measured against and/or is on the approved list of the following:

- NFPA 18 – Wetting Agents

SILV-EX® "CLASS A" FIRE CONTROL CONCENTRATE

- NFPA 1150 – Foam Chemicals for Wildland Fire Control
- Canadair Corporation – Approved for use in the CL-215 and CL-415 Aircraft and foam metering systems
- Rochna-Schlobohm Foam Insulation Test (Chemeketa Community College Test) – No crib ignition in 10 of 10 tests
- USDA Forest Service Specification 5100-304a – Toxicological and Corrosion Standards for Fixed Wing Aircraft, Helicopter Bucket and Ground Application

Foaming Properties – When used with fresh, sea or brackish water at the correct proportioning rate, the expansion will vary depending on the performance characteristics of the foam making equipment.

Proportioning – SILV-EX concentrate can be proportioned using most conventional proportioning equipment such as:

- Flow-Mix™ Model 500 foam proportioner
- Hypro FoamPro™ injection system
- Balanced pressure pump or bladder tank fixed sprinkler system
- In-line fixed or portable venturi type proportioners (eductors)

TYPICAL PROPORTIONING RATES FOR COMMON APPLICATIONS:

Fixed Wing Aircraft	0.6% to 0.7%
Rotary Wing Aircraft	0.2% to 0.5%
Air Aspirating Devices	0.2% to 1.0%
Non-Air Aspirating Devices	0.5% to 1.0%
Compressed Air Foam Systems (CAFS)	0.1% to 0.3%

Ansul Handline Nozzles

HL-60 Low Expansion	0.3% to 1.0%
HL-95 Low Expansion	0.3% to 1.0%
KR-S2 Low Expansion	0.3% to 1.0%
KR-M2 Medium Expansion	0.3% to 1.0%
KR-S/M2 Dual Expansion	0.3% to 1.0%
F-503B	0.3% to 1.0%
F-603B	0.3% to 1.0%

Storage/Shelf Life – When stored in the original packaging supplied (polyethylene drums or pails) or in equipment recommended by the manufacturer as part of the foam system and within the temperature limits specified, the shelf life of SILV-EX concentrate is normally about 20-25 years. The recommended storage temperature for SILV-EX concentrate is 20 °F (-7 °C) to 120 °F (49 °C).

If the product is frozen during storage or transportation, thawing will render the concentrate completely usable and ready for proportioning.

Compatibility – Because of the many products available, consult with Ansul Fire Protection before mixing SILV-EX concentrate with other manufacturer's products.

Materials of Construction Compatibility – Tests have been performed with SILV-EX concentrate verifying its compatibility with the steel, stainless steel, yellow brass, and aluminum alloys found in aerial and ground-based fire fighting equipment. SILV-EX is also compatible with standard fire fighter turn out gear and hose material.

Packaging – SILV-EX concentrate is packaged in opaque white 5 gallon plastic (polyethylene) containers with 2 3/4 in. (6.9 cm) capped openings. 30 and 55 gallon drum sizes are blue polyethylene with sealed 2 1/4 in. (5.7 cm) closures. All containers are marked "SILV-EX Class A Fire Control Concentrate."

Equipment Clean-up – The standard procedure of flushing with fresh water should be used with all equipment used with SILV-EX concentrate or foam solution.

Additional Information – Request the following Ansul Forms:

MSDS Sheet – F-8742

Brochure – F-9059

Question and Answer Sheet – F-90108

ORDERING INFORMATION

SILV-EX concentrate is available in the following sizes:

Part No. 73114	2 gallon (7.55 L) container
Part No. 75451	5 gallon (19 L) pail
Part No. 79704	30 gallon (113.6 L) drum
Part No. 75452	55 gallon (208.1 L) drum
Part No. 75450	bulk

Shipping Weight:

2 gal. container – 19 lbs. (8.6 kg)

5 gal. pail – 45 lbs. (20.4 kg)

30 gal. drum – 270 lbs. (122.5 kg)

55 gal. drum – 495 lbs. (224.5 kg)

Cube:

2 gal. container – 0.5 cu. ft. (.0142 m³)

5 gal. pail – 1.25 cu. ft. (.0353 m³)

30 gal. drum – 5.10 cu. ft. (.1445 m³)

55 gal. drum – 11.83 cu. ft. (.3350 m³)

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HyPro and FoamPro are registered trademarks of the HyPro Corporation, New Brighton, MN.

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