



1. PRODUCT IDENTIFICATION

This document covers the following product, hereafter referred to as “concentrate”:

Viking USP SFFF Fluorine-Free Foam Concentrate

2. INTENDED USE

The concentrate is intended to be used in fixed and semi-fixed fire protection systems as allowed by applicable approval authorities. The concentrate shall be used in accordance with:

1. The concentrate’s Listings, Approvals, and associated design requirements.
2. The recognized design and installations standards issued, for example by FM and NFPA.
3. The latest revisions of all applicable manufacturer’s and distributor’s documentation.



Governmental codes, ordinances, and standards may apply and may differ from one another.

⚠ WARNING:

Cancer and Reproductive Harm www.P65Warnings.ca.gov

The concentrate is intended for use:

- On Class A fires.
- On Class B hydrocarbon fuel fires.

For information on how to use the discharge devices associated with this concentrate, refer to the UL Listing.

NOTE: Do not use the concentrate as a pre-mixed solution.

NOTICE

Viking USP concentrate is FM Approved and UL Listed for use with fresh water only.

3. APPLICABLE DOCUMENTS

- Technical document F_110121.



TECHNICAL DATA SHEET

Viking USP SFFF Fluorine-Free Foam Concentrate

4. LISTINGS, APPROVALS, AND CERTIFICATIONS



FM Approved

Refer to the FM Approval guide for systems and devices that are approved for use with the concentrate. For correct system design, refer to the system and device documentation from Viking, NFPA, FM Global Property Loss Prevention data sheets, and relevant local/state standards. The foam extinguishing system's FM Approval is contingent upon the design, installation, testing and maintenance performed in accordance with NFPA and/or FM Global Property Loss Prevention data sheet, Foam/Water Sprinkler Systems.



UL Listed GFGV.EX27255

Refer to the UL Listing for systems and devices that are approved for use with this concentrate. Refer to the system and device data sheets from Viking, NFPA, and relevant local/state codes and/or standards for correct system design.



GreenScreen Certified: v2.2 Certificate #20221043



SFFF Compatible

"SFFF compatible" refers to this product as being part of a SFFF foam system that has been tested to recognized standards. Not all configurations are available. Please consult technical data and/or the approval/listing for usage requirements.

Viking USP SFFF Fluorine-Free Foam Concentrate is manufactured by Fomtec™ for The Viking Corporation. The following approvals are in the name of the manufacturer: EN 1568 Part 1 / EN 1568 Part 2 / EN 1568 part 3, Class 1A fresh water, ICAO Level B, GESIP approved for hydrocarbon fuels, IMO 1312, MED Module B and D, Boeing Specification Support Standard BSS 7432.

Fomtec™ is a trademark of Dafo Fomtec AB.

5. TECHNICAL SPECIFICATIONS

Parameter	Value
Appearance	Clear yellowish liquid
Specific gravity at 68 °F (20 °C)	1.04 ± 0.01 g/ml
Viscosity	Pseudo-plastic*
pH	6.5 — 8.5
Freezing point	12 °F (-11 °C)
Suspended sediment (v/v)	Less than 0.2%
Recommended storage temperature	32 — 131 °F (0 — 55 °C)
Typical storage/shelf life	Up to 10 years**
*See detailed viscosity data in Section 9.	
**See more storage details in technical document F_110121.	


TECHNICAL DATA SHEET
**Viking USP SFFF
Fluorine-Free Foam
Concentrate**

6. ENVIRONMENTAL IMPACT

The concentrate contains no intentionally added fluorinated surfactants, polymers, or other organohalogens. The concentrate is biodegradable and contains **NO PFOS or PFOA**. For more information, refer to the concentrate's Safety Data Sheet (SDS).

7. PROPORTIONING

For more details concerning proportioning components, refer to their FM Approval, UL Listing, or the appropriate Viking technical documents

8. INSPECTIONS, TESTS AND MAINTENANCE

The concentrate should be tested annually. Refer to respective requirements, according to the relevant inspection, testing, and maintenance standards. Where applicable, refer to the Authority Having Jurisdiction (AHJ) and/or FM Global Property Loss Prevention data sheets for specific criteria.

9. VISCOSITY

The Brookfield RST rheometer determines the concentrate's viscosity flow curves from low-to-high shear rates. The viscosity curves below are determined by calculating the average value of 8 or more measurements and add a safety margin of three standard deviations from the average.

Table 1: Viscosity				
Shear Rate (s ⁻¹)	Dynamic Viscosity (mPa/s)		Kinematic Viscosity (mm ² /s)	
	68 °F (20 °C)	41 °F (5 °C)	68 °F (20 °C)	41 °F (5 °C)
10.7	3728	3505	3584	3370
21.5	1939	1884	1864	1811
53.7	903	884	868	850
107.4	542	514	521	494
214.8	329	312	317	300
375.0	226	220	217	211
537.0	177	182	170	175
1074.0	145	142	139	137
1611.0	86	97	83	93
2148.0	70	82	68	79
2792.2	88	117	85	113



TECHNICAL DATA SHEET

Viking USP SFFF
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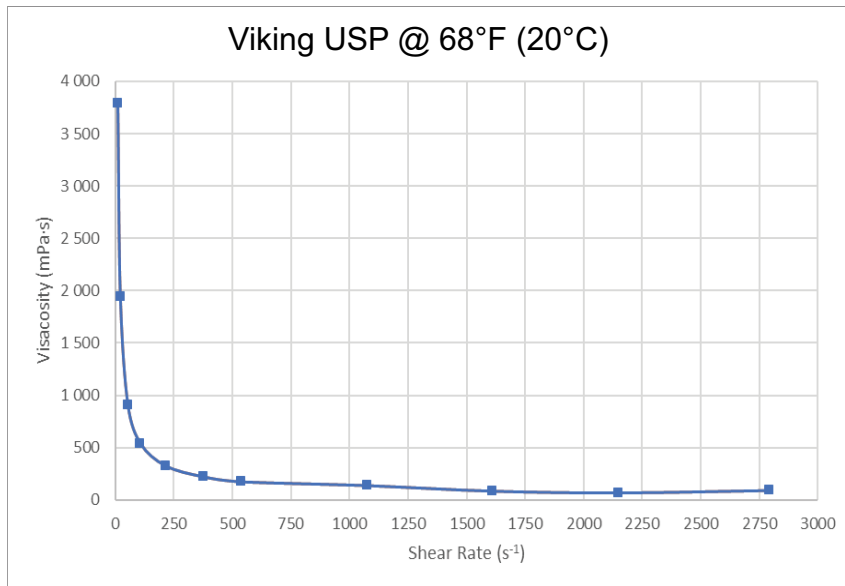


Figure – 1 Viscosity vs. Shear Rate - Viking USP SFFF at 68°F (20°C)

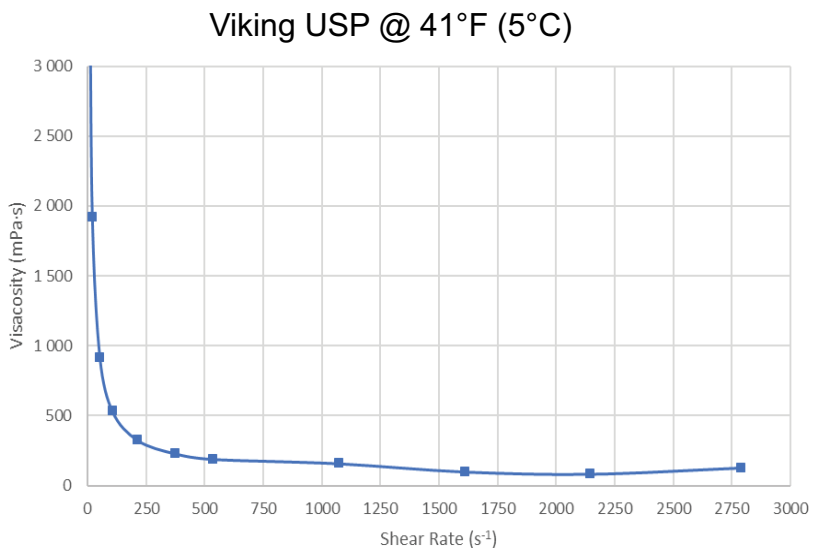


Figure – 2 Viscosity vs. Shear Rate - Viking USP SFFF at 41°F (5°C)


TECHNICAL DATA SHEET
**Viking USP SFFF
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10. ORDERING INFORMATION

Part number	Volume	Packaging	Approximate Shipping Weight*		Dimensions		Sales Region
			Lbs.	Kg	Inches	mm	
F21720-6.5	6.5 US Gallons	Pail	59	26.7	11 x 10 x 29	295 x 260 x 737	Americas
F21720-55	55 US Gallons	Drum	468	212.5	23 x 23 x 37	581 x 581 x 935	Americas
F21720-265	265 US Gallons	IBC Tote	2376**	1080**	47 x 39 x 45	1200 x 1000 x 1150	Americas
V-SFFFUSP/25	25 liters	Pail	59	26.7	11 x 10 x 17	295 x 260 x 441	EMEA/APAC
V-SFFFUSP/200	200 liters	Drum	468	212.5	23 x 23 x 37	581 x 581 x 935	EMEA/APAC
V-SFFFUSP/1000	1000 liters	IBC Tote	2376**	1080**	47 x 39 x 45	1200 x 1000 x 1150	EMEA/APAC
BULK	Bulk tanker deliveries available by special request. Contact Viking for availability.						
*Shipping weight and dimensions are approximate.							
**Weight does not include pallet.							

11. CONTACT

The concentrate is available through Viking distributors only. Contact your local Viking sales office which can be found on our website:

Americas and Asia: www.vikinggroupinc.com/locations OR Europe, Middle East, Africa (EMEA): www.viking-emea.com/contact

Fomtec (Manufacturer)

Dafo Fomtec AB
Garnisonsgatan 47a
SE-254 66 Helsingborg, Sweden
Tel: (+46) 8 506 405 66
info@fomtec.com

Distributor US:

The Viking Corporation
5150 Beltway SE
Caledonia, MI 49316
Tel.: (800) 968-9501
Fax: 269-818-1680
Technical Services: 1-877-384-5464
techsvcs@vikingcorp.com

Distributor EMEA:

Viking S.A.
21, Z.I, Haneboesch
L-4562 Differdange / Nieder Korn
Tel.: +352 58 37 37 – 1
Fax: +352 58 37 36
vikinglux@viking-emea.com

Distributor Asia Pacific (APAC):

The Viking Corporation (Far East) Pte. Ltd.
69 Tuas View Square
Westlink Techpark, Singapore 637621
Tel.: (+65) 6 278-4061
Fax: (+65) 6 278-4609
vikingAPAC@vikingcorp.com