



DATA SHEET

Green Sheet Fluorine Free Foam

Green Sheet™ SFFF 3% Synthetic Fluorine Free Foam Concentrate

Features

- Designed in accordance with NFPA Standard 11 for Low, Medium, and High-Expansion Foam
- UL 162 listed as a synthetic foam concentrate for use on hydrocarbon and polar solvent fuel fires
- Passes UL 162 type III test protocol on hydrocarbons at a design application rate of 0.16 gpm/ft² (4.1 Lpm/m²)
 - Recommended for use at 0.16 gpm/ft² (4.1 Lpm/m²) for spill fire applications
- Effective control and suppression on hydrocarbon fuels
- Superior drain time with a longer lasting foam blanket for better burn-back resistance and post-fire suppression

Description

Green Sheet SFFF is a 3% Non-Fluorinated Foam Concentrate that provides excellent fire and vapor suppression for Class B, polar solvent and hydrocarbon fuel fires. This synthetic foam concentrate is intended for forceful or gentle firefighting applications at 3% solution on hydrocarbon fuels and firefighting applications at 6% solution on polar solvent fuels.

Green Sheet SFFF foam solution utilizes three suppression mechanisms intended for rapid fire knockdown and superior burn-back resistance:

- extended drain times to block oxygen to the fuel and suppress fuel vapor.
- For polar solvent fires, we recommend a 6% application concentration to form a blanket and a polymeric film to suppress vapors and seal the fuel surface.
- The polymer content of the foam solution produces a cooling effect and foam adhesion to prevent backburn.

Green Sheet Foam SFFF concentrate is a non-fluorinated firefighting foam concentrate, meaning that it does not have any intentionally added PFAS chemistry and is manufactured in a PFAS/PFOS Free Facility.

Green Sheet Foam SFFF concentrate complies with Directives (EU) 2017/1000 on PFOA and 2019/1021 (EU POPs directive).

Green Sheet Fire Foam SFFF 3% is certified Non-Toxic and Biodegradable.

Typical Physical Chemical Properties

Appearance	Slight yellow liquid
Density	1.04 ± 0.02 g/ml
pH	6.5. – 7.5
Refractive Index	1.37 minimum
Viscosity	908 ± 100 cPs at 60 rpm
Freeze Point	26 °F (-3 °C)
Storage and Operating Range	35 °F to 120 °F (2 °C to 49 °C)

Green Sheet Fire Foam SFFF 3% Concentrate is a non-Newtonian fluid that is a pseudoplastic. Due to these properties, dynamic viscosity will decrease as shear increases.

Application

Green Sheet Fire Foam SFFF 3% Concentrate is intended for use on both types of Class B fires: hydrocarbon fuels with low water solubility and polar solvent fuels with appreciable water solubility. The concentrate has excellent wetting properties that effectively combats Class A fires. Green Sheet Foam is compatible with dry chemical agents to provide even greater fire suppression performance.

Green Sheet Fire Foam SFFF 3% Concentrate is well-suited for use in applications such as municipal and industrial response for spill and limited scale Type III hazards as well as foam systems with Type II discharge devices. Examples of these applications include:

- Industrial chemical and petroleum processing facilities
- Truck/rail loading and unloading facilities
- Flammable liquid containment areas
- Mobile equipment



DATA SHEET

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Application Rates

Fuel Group Concentration gpm/ft² (Lpm/m²)

Type III Application¹ – UL Listed

Hydrocarbons	3%	0.16	(6.5)
E15	3%	0.17	(6.9)

Type III Application² – Third Party Witnessed

Hydrocarbons	3%	0.10	(4.1)
Premium Gasoline	3%	0.16	(6.5)

Type II Application³ – UL Listed

Hydrocarbons	3%	0.10	(4.1)
Alcohols	6%	0.34	(13.8)
Ethanol (EtOH)	6%	0.34	(13.8)
Ketones	6%	0.34	(13.8)
E85	3%	0.15	(6.1)

(1) TYPE III DISCHARGE OUTLET – A device that delivers the foam directly onto the burning liquid as described in UL 162.

(2) NFPA 11 allows a design rate of 0.10 gpm/ft² (4.1 Lpm/m²) for spill fire applications. This product has been tested in accordance with UL 162 for use at this application rate.

(3) TYPE II DISCHARGE OUTLET – A device that delivers foam onto the burning liquid and partially submerges the foam or produces restricted agitation of the surface as described in UL 162.

Foaming Properties

Green Sheet Fire Foam SFFF 3% Concentrate may be effectively applied using conventional foam discharge equipment at the correct dilution with fresh, salt, or hard water.

TYPICAL FOAM CHARACTERISTICS*

Water	Fresh	Salt
Proportioning Rate	3%	3%
Expansion Ratio	≥ 8:1	≥ 6:1
25% Drain Time (min:sec)	≥ 23:00	≥ 23:00
50% Drain Time (min:sec)	≥ 60:00	≥ 50:00

Proportioning

The recommended operational temperature range for Green Sheet Fire Foam SFFF 3% Concentrate is 35 °F to 120 °F (2 °C to 49 °C) per UL 162. This foam concentrate can be correctly proportioned using conventional, properly calibrated, in-line proportioning equipment such as:

- Around-the-pump type proportioners
- Fixed or portable in-line venturi type proportioners
- Balanced and in-line balanced pressure pump proportioners
- Self-educing nozzles
- Balanced pressure bladder tanks and ratio flow controllers



DATA SHEET

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Storage and Handling

Green Sheet Fire Foam SFFF 3% Concentrate should be stored in the original supplied package (HDPE totes, drums, or pails).

The concentrate should be maintained within the recommended operational temperature range. Freezing of the product does not change the properties or characteristics of the product. There may be a slight change in color once the Concentrate has thawed.

There is no shelf life to the product when properly stored and proper handling. The shelf life of the containers is 10 years.

Inspection

A small sample should be sent for testing on an annual basis.

Ordering Information

<u>Part No.</u>	<u>Description</u>	<u>Shipping Weight</u>
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Pails

GS3%FF5G	5 gal (19 L)	45 lb (20.4 kg)
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Drums

GS3%FF55D	55 gal (208 L)	495 lb (224.5 kg)
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Totes*

GS3%FF275C	265 gal (1041 L)	2500 lb (1136.4 kg)
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* Totes are not UL approved packaging.

Safety Data Sheets (SDS) are available at www.greensheetfoam.com

Note: The converted metric values in this document are provided for dimensional reference only and do not reflect an actual measurement.