



# Avio<sup>F3</sup> Green KHB 3%

Fluorine Free (FF) Foam Concentrate  
NFC520



## Assurance

*Doing what's right, rather than  
what's convenient*

National Foam prides itself on the open and honest way in which we conduct our business throughout the world. Our foams are an extension of our ethical beliefs and we pride ourselves in being the responsible foam manufacturer, balancing high performance with minimal environmental impact. Our fluorine free foams contain no added fluorosurfactants, fluoropolymers, organohalogens or PFAS.

## Innovative Formulation

National Foam has developed a revolutionary foam concentrate specifically for the rigorous and challenging needs of the aviation sector - Avio<sup>F3</sup> Green KHB 3%. It has been designed as a fluorine free foam for those circumstances when minimizing environmental persistence is paramount. Avio<sup>F3</sup> Green KHB 3% has been designed to meet the requirements of ICAO Level B.

A unique patent pending formulation for airport protection - repeatable and responsible certification.

- ✔ Fast knock-down and extinguishment exceeding the requirements of ICAO level B.
- ✔ True Newtonian (low viscosity) foam to ensure accurate, easy induction and airport crash vehicle compatibility.
- ✔ Fluorine free to meet airport policy on minimizing environmental persistence.

Avio<sup>F3</sup> Green KHB 3% is a superior quality synthetic fluorine free (FF) foam concentrate, designed for extinguishing and securing flammable aviation fuel spills and fires (Jet A and Jet A1).

Avio<sup>F3</sup> Green KHB 3% is a patent pending combination of surfactants and other ingredients and produces a vapor sealing blanket of foam that rapidly spreads over the surface of the fuel to provide rapid control and extinguishment.

- Unique patent pending formulation only available from National Foam.
- The world's first truly Newtonian fluorine free foam (it behaves like water due to not containing any polymers or gelling agents).
- Specifically designed for the aviation sector's focused risks.

## Applications

Avio<sup>F3</sup> Green KHB 3% is used in high risk situations where hydrocarbon fuels such as Jet-A, Jet-A1 and aviation kerosene are processed, stored or transported.

It is designed to be used on Aviation Rescue Fire Fighting vehicles (ARFF), Rapid Intervention Vehicles (RIV) and airport crash trucks where fast extinguishment is essential for saving life. Avio<sup>F3</sup> Green KHB 3% provides a vapor suppressing foam blanket on Jet-A and Jet-A1 spills.

## Typical Physical Properties

Appearance.....Clear Mobile Liquid  
 Specific Gravity at 68°F(20°C).....0.99-1.01  
 pH @ 68°F(20°C) .....8.0-9.0  
 Viscosity@ 68°F(20°C).....2cP  
 Lowest Use Temperature .....35°F(2°C)  
 Max Continuous  
 Storage Temperature ..... 122°F(50°C)

## Approvals and Listings

Avio<sup>F3</sup> Green KHB 3% meets and exceeds the requirements of ICAO 2013 Level B and is certified to this performance level.

## Equipment

Avio<sup>F3</sup> Green KHB 3% is intended for use at 3% (3 parts concentrate to 97 parts water). Avio<sup>F3</sup> Green KHB 3% is readily proportioned using conventional foam proportioning equipment.

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## Fluorine Free (FF) Foam Concentrate

Avio<sup>F3</sup> Green KHB 3% should be used with aspirated devices. Where a fire or shallow spill is involved with fire, National Foam always recommends the use of aspirated foam where a stable foam blanket is essential.

### Compatibility

Avio<sup>F3</sup> Green KHB 3% is suitable for use in combination with:

- Potable and fresh water.
- Expanded protein-based or synthetic foams for application to a fire in sequence or simultaneously.
- Dry powder extinguishing agents either separately or as twin agent systems.

As required by NFPA 11, Avio<sup>F3</sup> Green KHB 3% should not be mixed with other foam concentrates. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of fire fighting capability.

### Environmental

Avio<sup>F3</sup> Green KHB 3% contains no added fluorosurfactants, fluoropolymers, organohalogenes or PFAS.

Avio<sup>F3</sup> Green KHB 3% is 100% biodegradable, however, as with any substance, care should be taken to prevent discharge from entering groundwater, surface water, or storm drains. Disposal of Avio<sup>F3</sup> Green KHB 3% foam concentrate or foam solution should be made in accordance with federal, state, and local regulations.

### Storage

Avio<sup>F3</sup> Green KHB 3% is ideally stored in its original shipping container or in tanks or other containers which have been designed for such foam storage. Recommended construction materials are stainless steel (Type 304L or 316), high density cross-linked polyethylene, or reinforced fiberglass polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (50 -100 mils).

Foam concentrates are subject to evaporation which accelerates when the product is exposed to air. Storage tanks should be sealed and fitted with a pressure vacuum vent to prevent free exchange of air. The recommended storage environment is within the temperature range of 35°F to 122°F (2°C to 50°C).

### Shelf Life, Inspection, and Testing

The shelf life of any foam concentrate is maximized by proper storage conditions and maintenance. Factors affecting shelf life are wide temperature changes, extreme high or low temperatures, evaporation, dilution, and contamination by foreign materials. National Foam firefighting foam concentrates have been tested and have not shown significant loss of performance even after 10 years or more, provided annual testing and proper storage recommendations are followed. Refer to National Foam technical bulletin NFB240 for recommendations on foam concentrate storage and preservation.

Annual testing of all firefighting foam is recommended by the National Fire Protection Association (NFPA). National Foam provides a Technical Service Program to conduct such tests. Refer to National Foam product data sheet NFC960 for further details on Technical Service program.



### Ordering Information

Container	Shipping Weight	Shipping Dimensions	Part Number
5-Gallon Pails (19 liters)	44.1 lb. (20.0 kg)	1.13 cu. ft. <sup>3</sup> (0.032 cu. m)	2193-3340-1
55-Gallon Drums (208 liters)	480.6 lb. (218.0 kg)	11.1 cu. ft. <sup>3</sup> (0.314 cu. m)	2193-3481-1
275-Gallon IBC Reusable Tote Tank (1041 liters)	2428.5 lb. (1102.0 kg)	48.2 cu. ft. <sup>3</sup> (1.365 cu. m)	2193-3725-1

### National Foam

350 East Union Street, West Chester, PA 19382, USA  
 Email: [info@nationalfoam.com](mailto:info@nationalfoam.com)  
[www.nationalfoam.com](http://www.nationalfoam.com)

National Foam operates a continuous programme of product development. The right is therefore reserved to modify any specification without prior notice and National Foam should be contacted to ensure that the current issues of all technical data sheets are used.

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 02/21 NFC520 (Rev A)