SKUM 3% SFFF ICAO-B Concentrate (NFF-3B)

Description

SKUM 3% SFFF ICAO-B is a Synthetic Fluorine Free Foam Concentrate (SFFF) that provides excellent fire and vapor suppression for Class B hydrocarbon fuel fires.

It has been specifically designed to be used at 3% in airport firefighting applications, for suppressing and securing flammable aviation fuel spills and fires (Jet A, Jet A1, and kerosene). It is a Newtonian low viscosity foam to ensure easy induction and compatibility with airport crash vehicles.

SKUM 3% SFFF ICAO-B Foam Concentrate utilizes two suppression mechanisms intended for rapid fire knockdown and superior burnback resistance:

- The foam blanket suppresses fuel vapors from mixing with oxygen thereby preventing ignition
- The water content of the foam solution produces a cooling effect for additional fire suppression

SKUM 3% SFFF ICAO-B Concentrate is a non-fluorinated firefighting foam concentrate, meaning that it does not have any intentionally added PFAS chemistry and is produced in equipment that has not handled PFAS chemistry.

SKUM 3% SFFF ICAO-B Concentrate complies with Directives (EU) 2017/1000 on PFOA and 2019/1021 (EU POPs directive).

Table 1. Typical physiochemical properties

Property	Value
Appearance	Pale yellow liquid
Density	1.09 + 0.02 g/ml
pH	7.0 to 8.0
Refractive index	1.380 minimum
Viscosity	8 cSt at 0 °C (32 °F)
Viscosity*	4 cSt at 20 °C (68 °F)
Freeze point**	-2 °C (28.4 °F)
Storage and operating range	0 °C to 49 °C (32 °F to 120 °F)

*Cannon Fenske Viscometer

**in accordance with the EN1568:2018 protocol

Note: While NFF (also known as SFFF) agents may be compatible with existing AFFF and/or NFF hardware, system contamination from fluorinated agents may exist if hardware and piping is not replaced upon conversion to non-fluorinated agents.

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Approvals, listings, and standards

SKUM 3% SFFF ICAO-B Concentrate is approved, listed, or qualified under the following standards:

- ICAO 9137-AN/898 Fourth Edition, 2015 – Level B
- GreenScreen Certified™ Silver firefighting foam concentrate

ICAO Level B

GREENSCREEN CERTIFIED SILVER

Application

SKUM 3% SFFF ICAO-B Concentrate is intended for use on Class B hydrocarbon fuels fire with low water solubility, such as aviation fuels (Jet A, Jet A1, and kerosene), gasolines and diesel fuels. It is not suitable for polar solvents. It may also be used in conjunction with dry chemical agents to provide even greater fire suppression performance.

SKUM 3% SFFF ICAO-B Concentrate is specifically designed for aviation applications requiring firefighting performances in accordance with the International Civil Aviation Organization (ICAO).

Typical applications include the following examples:

- Aircraft Rescue and Fire Fighting (ARFF) equipment, including ARFF vehicles, monitors, and nozzles
- Rapid Intervention Vehicles (RIV)
- Mobile emergency response equipment

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Johnson Controls

Foaming properties

SKUM 3% SFFF ICAO-B Concentrate may be effectively applied using most conventional air-aspirating or non-air-aspirating foam discharge equipment at the correct dilution with fresh water.

For optimum performance, water hardness should not exceed 500 ppm expressed as calcium and magnesium.

Table 2. Typical foam characteristics*

Characteristic	Fresh water
Proportioning rate	3%
Expansion ratio	9.5
25% drain time (min:sec)	6:10
50% drain time (min:sec)	12:30

*in accordance with the EN 1568-3: 2018 protocol

Proportioning

The recommended operational temperature range for SKUM 3% SFFF ICAO-B Concentrate is 0 °C to 49 °C (32 °F to 120 °F).

This foam concentrate can be correctly proportioned using most conventional, correctly calibrated, in-line proportioning equipment such as the following:

- Balanced and in-line balanced pressure pump proportioners
- Balanced pressure bladder tanks and ratio flow controllers
- Around-the-pump type proportioners
- Fixed or portable in-line venturi type proportioners
- Handline nozzles with fixed eductor/pick-up tubes

Storage and handling

SKUM 3% SFFF ICAO-B Concentrate should be stored in the original supplied package (HDPE totes, drums, or cans/pails) or in the recommended foam system equipment as outlined in the Johnson Controls Technical Bulletin on the Storage of Foam Concentrates. The concentrate should be maintained within the recommended operational temperature range. Freezing of the product should be avoided.

Factors that affect the foam concentrate's long-term effectiveness include temperature exposure and cycling, storage container characteristics, air exposure, evaporation, dilution, and contamination. The effective life of SKUM 3% SFFF ICAO-B Concentrate can be maximized through optimal storage conditions and correct handling. SKUM concentrates have demonstrated effective firefighting performance with contents stored in the original package under correct conditions for more than 10 years.

This product should not be mixed with other types of foam concentrates or other manufacturer's foam concentrates under any circumstances. The use of multiple, separately applied finished foam products for incident response is appropriate.

Quality assurance

SKUM 3% SFFF ICAO-B Concentrate is subject to stringent quality controls throughout production, from incoming raw materials inspection to finished product testing, and is manufactured in an ISO 9001 and ISO 14001 certified facility.

Inspection

SKUM 3% SFFF ICAO-B Concentrate should be inspected periodically in accordance with NFPA 11, EN 13565-2, or other relevant standard. A representative concentrate sample should be sent to Johnson Controls Foam Analytical Services or other qualified laboratory for quality analysis in accordance with the applicable standard. An annual inspection and sample analysis is typically sufficient, unless the product has been exposed to unusual conditions.

Ordering information

Table 3. Ordering information

Part no.	Description	Shipping weight
F213506C2	20 L can/pail	23 kg (50.7 lb)
F213506D1	200 L drum	227 kg (500.4 lb)
F213506T1	1000 L tote	1150 kg (2535.3 lb)

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

If any foam product is discharged into the environment, efforts should be made to control, contain, and collect the discharge for proper disposal, while following all applicable laws, regulations, and codes. Further information regarding the use, discharge, and disposal of firefighting foams can be found at www.skum.com.

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