



DATA SHEET
#NFC440

CENTURION 3% AR-AFFF Environmentally Responsible Foam Concentrate

Description

Environmentally responsible Centurion 3% is the next generation in Alcohol-Resistant Aqueous Film Forming Foam (AR-AFFF). This new formulation demonstrates National Foam's commitment to superior flexibility, firefighting performance, and environmental responsibility.

Centurion is used at 3% concentration to extinguish hydrocarbon and polar-solvent (water-miscible) fires. It is suitable for use with foam compatible dry powder extinguishing agents.

Centurion 3% is an AR-AFFF concentrate with a special biosynthesized polymer. This polymer is designed to fulfill two functions. The first is to form a protective membrane between the fuel and the foam as it contacts the water-miscible fuel, making extinguishment possible. The second function is to make the foam more stable and heat-resistant, resulting in better burnback resistance and sealability compared to conventional AFFF's. The concentrate formulation is recognized by United States Patents 4,999,119 and 5,207,932.

Applications

Centurion 3% is used in fire suppression systems and manual applications to fight a broad range of Class B fires. Its versatility simplifies the extinguishment of unknown Class B fuels. Typical applications include storage tanks, loading racks, docks, process areas, warehouses, spills, etc. Centurion 3% can also be used as a wetting agent in combating Class A fires.

Typical Physical Properties

Appearance	Straw-Colored Viscous Liquid
Specific Gravity @ 77°F (25°C)	1.02
pH.....	8.4
Viscosity.....	2600 cps*
Minimum usable temperature	35°F (2°C)
Maximum usable temperature	120°F (49°C)
Freeze Point	28°F (-2°C)
Effects of Freeze/Thaw	No performance loss

*Brookfield #4 Spindle @ 60 rpm. Viscosity measured under different shear conditions will be different because of pseudoplastic rheology of this non-Newtonian product.

Approvals and Listings

- Underwriters Laboratories, Inc.
- Underwriters' Laboratories of Canada (ULC)

Centurion 3% Alcohol-Resistant Aqueous Film Forming Foam Concentrate has successfully passed UL-162, 7th edition test criteria for use at 3% concentration on hydrocarbons and polar solvents using both fresh and sea water. The UL listings include applications through a variety of proportioning and foam making devices. Consult National Foam for a complete list of these devices.

Storage and Handling

Centurion 3% is ideally stored in its original shipping container or in tanks or other containers that 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 UL-listed temperature range of 35°F to 120°F (2°C to 49°C).

It is recommended that Centurion 3% not be mixed with any other type of foam concentrate in long-term storage. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of its firefighting capability. Most expanded foams are compatible for side-by-side application during an incident.

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. Properly stored National Foam AR-AFFF foam concentrates have been tested and shown no significant loss of firefighting performance, even after 25 years. The National Fire Protection Association (NFPA) recommends annual testing of all

firefighting foams. National Foam provides a Technical Service Program to conduct such tests.

Environmental and Toxicological Information

Centurion 3% contains no ingredients reportable under the Superfund Amendments and Reauthorization Act (SARA) Title III, Section 313 of 40 CFR-372 or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as of July 1, 1995. Centurion 3% is biodegradable. However, as with any substance, care should be taken to prevent discharge from entering ground water, surface water, or storm drains. With advance notice, Centurion 3% solution can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal or discharge of Centurion 3% concentrate or foam solution should be made in accordance with federal, state, and local regulations.

The Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) of Centurion 3% are as follows:

BOD₅ 91,000 mg/kg
COD 243,000 mg/kg

Centurion 3% has not been tested for acute oral toxicity, primary eye, or primary skin irritation.

Repeated skin contact will remove oils from the skin and cause dryness. Centurion 3% is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment.

If Centurion 3% enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Centurion 3% Material Safety Data Sheet.

Ordering Information

CONTAINER	SHIPPING WEIGHT	PART NUMBER
5-Gallon Pails (19 litres)	46 lb. (20.9 kg)	2130-2340-6
55-Gallon Drums (208 litres)	494 lb. (225.0 kg)	2130-2481-6
275-Gallon IBC Reusable Tote Tank (1041 litres)	2512 lb. (1141.8 kg)	2130-2725-6
Bulk	8.51 lb./gal. (1.02 kg/l)	2130-2001-6

Palletizing of pails and drums is available upon request.

SHIPPING CUBE

5-Gallon Pail 1.13 cu. ft. (0.032 m³)
55-Gallon Drum 11.51 cu. ft. (0.326 m³)
275-Gallon IBC Tote Tank 51.11 cu. ft. (1.1061 m³)

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

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