



Universal[®] Plus^{C6} 3%-6%

Alcohol Resistant Aqueous Film-Forming Foam
NFC410



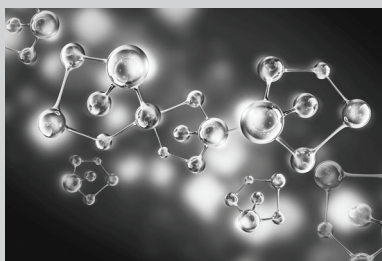
Assurance

Firefighting and environmental performance you can rely on

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.

C6 Technology

Environmentally Responsible Universal Plus^{C6} 3%/6% alcohol-resistant aqueous film forming foam (AR-AFFF) is used at 3% concentration to extinguish hydrocarbon fires, and 6% for polar-solvent (water miscible) fires. The C6 Fluorosurfactants have been developed and refined specifically to lower the environmental impact without reducing performance. This new formulation demonstrates National Foam's commitment to superior flexibility, firefighting performance, and environmental responsibility. It is suitable for use with most types of proportioning and discharge equipment.



- ✔ Environmentally responsible foam concentrate.
- ✔ Suitable for use with fresh or sea water.
- ✔ Compatible with a wide range of proportioning and foam making devices.
- ✔ Suitable for use with foam compatible dry powder extinguishing agents.
- ✔ Listed for use on hydrocarbons At 3% proportioning.
- ✔ Listed for use on a wide variety of polar solvent fuels at 6% proportioning.
- ✔ Underwriters Laboratories, Inc.
- ✔ Underwriters Laboratories of Canada (ULC).

Universal Plus^{C6} 3%/6% 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 AFFFs. The unique state-of-the-art Universal Plus^{C6} 3%/6% concentrate formulation is recognized by United States Patents 4,999,119 and 5,207,932.

Universal Plus^{C6} 3%/6% is used in fire suppression systems and manual applications to fight the broadest range

of Class B fires. Typical applications include storage tanks, loading racks, docks, process areas, warehouses, spills, etc. Universal Plus can also be used as a wetting agent in combating Class A fires.

Typical Physical Properties

Appearance...Straw Yellow Viscous Liquid
 Specific Gravity at 77°F(25°C).....1.02
 pH.....8.2
 Viscosity.....2,700 cP*
 Freezing Point.....29°F(-2°C)
 Min Usable Temperature.....35°F(2°C)
 Max Usable Temperature.....120°F(49°C)
 *Brookfield #3 Spindle @ 30 rpm. Viscosity measured under different shear conditions will vary because of pseudoplastic rheology of this non-Newtonian product.

Storage and Handling

Universal Plus^{C6} 3%/6% 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). Refer to National Foam Technical Bulletin NFTB100 for further information.

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 should be within the UL listed temperature

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range of 35°F to 120°F (2°C to 49°C). When product is stored in atmospheric storage tanks, contents must be covered with 1/4-inch (6.35mm) of National Foam Seal Oil to ensure prevention of air coming into contact with the foam concentrate. Use of Seal Oil is only recommended in stationary storage tanks. Refer to National Foam product data sheet NFC950 for further information.

Universal Plus^{C6} 3%/6% foam concentrate is freeze/thaw stable. Should the product freeze during shipment or storage, no performance loss is expected upon thawing.

It is recommended that Universal Plus^{C6} 3%/6% 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.

Annual testing of all firefighting foams 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.

Environmental and Toxicological Information

Universal Plus^{C6} 3%/6% 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. National Foam Concentrates do not contain PFOS in accordance with USEPA Stewardship Program 2010/2015.

Prevent foam concentrate and foam solution from entering ground water, surface water, or storm drains. Discharge and disposal of Universal Plus^{C6} 3%/6% concentrate or foam solution should be made in accordance with federal, state, and local regulations. Refer to National Foam Technical Bulletin NFB110 for further information.

Universal Plus^{C6} 3%/6% has not been tested for acute oral toxicity, primary skin irritation or primary eye irritation. Repeated skin contact will remove oils from the skin and cause dryness. Universal Plus^{C6} 3%/6% is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment. If Universal Plus^{C6} 3%/6% enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Universal Plus^{C6} Safety Data Sheet NMS410.

Underwriters Laboratories-Listed Type II Application Rates for Universal Plus^{C6} @ 6%

Fuel Group	UL-Listed Type II Application Rate gpm/ft ² (lpm/m ²)
Alcohols.....	0.13 (5.3)
Ethanol.....	0.10 (4.1)
Methanol.....	0.10 (4.1)
Ketones.....	0.13 (5.3)
Methyl Ethyl Ketone.....	0.10 (4.1)
MTBE.....	0.15 (6.1)
Esters.....	0.10 (4.1)

Please refer to UL Fire Protection Online Certifications Directory for additional information on application rates and other discharge devices.

Ordering Information

Container	Shipping Weight	Shipping Dimensions	Part Number
5-Gallon Pails (19 liters)	45 lb. (20.4 kg)	1.13 cu. ft. ³ (0.032 cu. m)	2130-5340-4
55-Gallon Drums (208 liters)	490 lb. (222.3 kg)	11.51 cu. ft. ³ (0.326 cu. m)	2130-5481-4
275-Gallon IBC Reusable Tote Tank (1041 liters)	2475 lb. (1122.7 kg)	51.11 cu. ft. ³ (1.1061 cu. m)	2130-5725-4
330-Gallon IBC Reusable Tote Tank (1249 liters)	2963 lb. (1334.0 kg)	55.8 cu. ft. ³ (1.580 cu. m)	2130-5033-4
Bulk	8.51 lb./gal. (1.02 kg/l)		2130-5001-4

National Foam

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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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