



Universal[®] Gold^{C6} 1%/3%

Alcohol Resistant Aqueous Film-
Forming Foam
NFC420

- ✓ Designed for high risk facilities and large scale fires
- ✓ 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 1% or 3% proportioning.
- ✓ Listed for use on a wide variety of polar solvent fuels at 3% proportioning.
- ✓ Underwriters Laboratories, Inc.
- ✓ Underwriters Laboratories of Canada (ULC).
- ✓ United States Coast Guard (USCG) for 3% only.
- ✓ Formulated using 'C6' fluorosurfactant technology



Universal Gold^{C6} 1%/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 AFFFs. The unique state-of-the-art Universal Gold^{C6} 1%/3% concentrate formulation is recognized by United States Patents 4,999,119 and 5,207,932.

Universal Gold^{C6} 1%/3% is used in fire suppression systems and manual applications to fight the broadest 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.

Typical Physical Properties

Appearance.....Amber-Colored
Viscous Liquid
Specific Gravity at 77°F(25°C).....1.03
pH.....8.2
Viscosity.....2,800 cP*
Freezing Point.....26°F(-3°C)
Min Usable Temperature.....35°F(2°C)
Max Usable Temperature.....120°F(49°C)

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

Storage and Handling

Universal Gold^{C6} 1%/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). Refer to National Foam Technical Bulletin NFTB100 for further information.

Universal Gold^{C6} 1%/3% foam concentrate is freeze/thaw stable. Should the product freeze during shipment or storage, no performance loss is expected upon thawing.

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 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 Technical Bulletin NFTB100 or National Foam product data sheet NFC950 for further information.

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It is recommended that Universal Gold^{C6} 1%/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. 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 NFTB240 for recommendations on foam concentrate storage and preservation.

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

As all 'C6' foams contain PFAS please refer to the product's Safety Data Sheet (SDS) and website for more information regarding the use, discharge and disposal of all firefighting foam products.

Prevent foam concentrate and foam solution from entering ground water, surface water, or storm drains. Discharge and disposal of Universal Gold^{C6} 1%/3% concentrate or foam solution should be made in accordance with federal, state, and local regulations.

Universal Gold^{C6} 1%/3% 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 Gold^{C6} 1%/3% is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment. If Universal Gold^{C6} 1%/3% enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Universal Gold^{C6} 1%/3% Safety Data Sheet NMS420.

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Underwriters Laboratories-Listed Application Rates for Universal Gold^{C6} 1%/3%

Type III Application Rates

| <u>Fuel Group</u> | <u>Proportioning %</u> | <u>UL-Listed Rate gpm/ft² (lpm/m²)</u> |
|---|------------------------|--|
| Hydrocarbons | 1% | 0.16 (6.5)* |
| Hydrocarbons | 3% | 0.16 (6.5)* |
| MTBE/Gasoline Blends (up to 30% MTBE) | 3% | 0.15 (6.1) |
| Ethanol/Gasoline Blends (up to 15.6% ethanol) | 3% | 0.15 (6.1) |
| Biodiesel (methyl ester from lipid sources) | 3% | 0.10 (4.1) |

Type II Application Rates

| <u>Fuel Group</u> | <u>Proportioning %</u> | <u>UL-Listed Rate gpm/ft² (lpm/m²)</u> |
|--|------------------------|--|
| Alcohols | 3% | 0.13 (5.3) |
| Ethanol | 3% | 0.10 (4.1) |
| Methanol | 3% | 0.10 (4.1) |
| Aldehydes | 3% | 0.24 (9.8) |
| Amines | 3% | 0.15 (6.1) |
| Carboxylic Acids | 3% | 0.15 (6.1) |
| Esters | 3% | 0.10 (4.1) |
| Ethers | 3% | 0.15 (6.1) |
| ETBE | 3% | 0.14 (5.7) |
| MTBE | 3% | 0.13 (5.3) |
| TAME | 3% | 0.13 (5.3) |
| Hydrocarbons | 3% | 0.10 (4.1) |
| Ketones | 3% | 0.16 (6.5) |
| Methyl Ethyl Ketone | 3% | 0.12 (4.9) |
| MTBE/Gasoline Blends (up to 17.5% MTBE) | 3% | 0.10 (4.1) |
| Biodiesel (ME) Methyl Ester from Lipid Sources | 3% | 0.10 (4.1) |

For materials marked with an asterisk (*), refer to NFPA 11 for additional design criteria.

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) | 45.5 lb. (20.6 kg) | 1.13 cu. ft. ³ (0.032 cu. m) | 2130-7340-4 |
| 55-Gallon Drums (208 liters) | 495 lb. (224.5 kg) | 11.1 cu. ft. ³ (0.314 cu. m) | 2130-7481-4 |
| 275-Gallon IBC Reusable Tote Tank (1041 liters) | 2497 lb. (1132.6 kg) | 48.2 cu. ft. ³ (1.365 cu. m) | 2130-7725-4 |
| 330-Gallon IBC Reusable Tote Tank (1249 liters) | 2990 lb. (1356.3 kg) | 55.8 cu. ft. ³ (1.580 cu. m) | 2130-7033-4 |
| Bulk | 8.59 lb./gal. (1.03 kg/l) | | 2130-7001-4 |

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