Alliance for Telomer Chemistry Stewardship

C6 Based Firefighting Foams Offer Reliable, Effective, Efficient Performance to Protect Lives and Fight the Toughest Flammable Liquid Fires

High-Hazard Class B fires present a significant fire risk and require the highest performing products.

Class B fires present a significant risk and require special management. Such fires involve flammable liquids and are different from fires involving Class A fuels such as vegetation, wood or paper. Flammable liquids include gasoline, kerosene, petroleum greases, tars, oils, oil-based paints, solvents, lacquers, or alcohols. According to the most recent fire statistics from the National Fire Protection Association (NFPA)[1], an average of 37,000 fires occurred at industrial and manufacturing properties just in the U.S. with over $1 billion in direct property damage. And this does not even include incidents handled by private fire brigades or fixed suppression systems. While not all of these fires are class B fires, these statistics provide a sense of the devastating impact such fires can have.

Why AFFF & AR-AFFF made with High-purity C6 Fluorotelomer-based surfactants are the Most Effective and Critical for High Hazard Class B Fires

For high hazard fires where lives are on the line and significant property damage is threatened, the most effective and reliable firefighting agent is crucial to protecting lives and essential property assets. Fluorinated firefighting foams such as Aqueous Film Forming Foams (AFFF) and Alcohol Resistant Aqueous Film Forming Foams (AR-AFFF) made with C6 Fluorosurfactants are produced to meet the most stringent specifications (including military) to combat fuel-based fires. They are proven by recent extensive and rigorous NFPA Research Foundation and US Naval Research Laboratory testing to be the most effective foams currently available to fight flammable liquid fires occurring in many military, industrial, and aviation situations. It is widely recognized their use is essential in protecting Major Hazard Facilities (MHFs) including:

- **Refineries and Chemical/Pharmaceutical Plants that handle flammable liquids.**
- **Storage and Distribution Facilities, Tank Farms & Terminals for flammable liquids including jetties/marine terminals.**
- **Flammable liquids in transit by rail, pipeline or road/ship tankers.**
- **Airports, helipads, helidecks, offshore platforms, production vessels, and major transportation hubs.**
- **Military aviation and shipboard operations.**
- **Fixed foam systems and their re-charging to maintain designed safety protection levels.**

OVER ⟶

The critical benefits provided by C6 AFFFs include:

- √ Superior vapor suppression, quickly preventing reignition and escalation of liquid fires – helping to increase effective and life-saving rescue and evacuation time.
- √ Oleophobicity (fuel repellency), preventing damaging fuel pick-up (which otherwise could destroy the foam blanket), when foams are inevitably plunged into even shallow pools of flammable liquid fuel, during major emergencies.
- √ Film forming capability providing rapid control of shallow hydrocarbon spill fires, even when applied non-aspirated through water nozzles.
- √ Effective at the widest range of expansion ratios from non-aspirated, through low expansions whether 3-4:1, 8-10:1 up to Medium expansions of around 50-80:1 and beyond.
- √ High stability, extremely low reactivity and non-flammability make C6 foams exceptionally effective for all flammable liquid fuel types and application devices.
- √ This high stability and effective operation across a very wide temperature range provides superior fire performance year-round whether required in high summer or cold winter temperatures, although very cold climates will require freeze protected variants.
- √ Minimal foam usage for a given size fire, ensures containment dikes do not overflow with noxious firewater runoff, before rapid control and extinction are achieved, minimizing adverse environmental impacts.
- √ Fast control, fuel shedding and vapor suppression provide greater protection for front-line firefighters and emergency responders in specific scenarios which avoids undesirable complications and unintended consequences of alternative foams.
- √ First responder benefit from greater fire capabilities delivered from smaller concentrate volumes, making responding fire trucks more effective, while also C6 foams minimizing capital costs, and equipment expenditures for Fire Departments, industrial companies and public entities like cities, airports and ports.
- √ Proven effectiveness on large incidents with versatile handling under many variable conditions within established safety factors for firefighting foam applications.
- √ Compatibility with other AFFFs and AR-AFFFs allowing mutual aid and sharing resource without serious complications.
- √ Well established training and standard operating procedures by firefighters ensures fire fighter capabilities and safety are maximized.

1. https://www.nfpa.org/News-and-Research/Data-research-and-tools/Building-and-Life-Safety/Fires-in-US-Industrial-and-Manufacturing-Facilities

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