

Tankmaster™

Tankmaster™ is a superior quality FluoroProtein (FP) fire fighting foam concentrate for extinguishing and securing flammable hydrocarbon liquid fires.



Tankmaster is a powerful and cost-effective agent for the protection of a wide range of hydrocarbons including crude oil, regular leaded gasoline, unleaded gasoline containing up to 20% Methyl Tertiary Butyl Ether (MTBE), and pure MTBE. Its unique formulation is based on advanced protein foam technology. The protein base provides a tough cohesive foam blanket with high resistance to heat that quickly smothers, cools, and seals the risk. Fluorochemical surface active agents combined with the protein base increase the fluidity and fuel repellency of the foam.

- Stable long-lasting foam blanket for unsurpassed burnback resistance and post-fire security.
- Highly fluid foam for rapid fire knockdown and extinguishment.
- Detergent-free for high resistance to fuel pick-up.
- Excellent sealing action against hot metal surfaces.
- Foam blanket re-seals when ruptured by personnel or equipment.

Environment

Tankmaster™ is biodegradable and virtually non-toxic to aquatic organisms. It is based on a natural protein foaming agent and contains no harmful synthetic detergent or glycol ether solvents.

Applications

Tankmaster™ is the ideal fire fighting foam to use in situations where hydrocarbon fuels such as crude oil, gasoline, and fuel oils are stored, processed, or transported. Formerly known as FP70 Plus, it is used extensively by major oil and petrochemical companies for hydrocarbon, MTBE and blended unleaded gasoline storage tank fire protection around the world. Other typical applications include process areas, road/rail loading racks, power stations, marine terminals, and airports. Tankmaster™ provides a vapour-suppressing foam blanket on unignited hydrocarbon spills.

Performance

The fire performance of Tankmaster™ is measured primarily against Underwriters Laboratories Standard UL 162 (7th Edition) and LASTFIRE.

Approvals and Listings

Tankmaster™ has numerous approvals and UL Listings.

Independently Tested and Certified to EN1568:2008 Part 3.

Equipment

Tankmaster™ is intended for use as a 3% solution in water (3 parts concentrate to 97 parts water) at low and medium expansion.

It is readily proportioned using conventional foam proportioning

equipment such as portable and fixed (in-line) foam venturi proportioners, handline nozzles/branchpipes with pick-up tubes, balanced pressure variable flow proportioners, balanced pressure bladder tank proportioners, and around-the-pump proportioners. Tankmaster™ should be used with air aspirating discharge devices such as low expansion branchpipes, monitors, top pourer sets, rimseal foam pourers, and foam/water sprinklers. It also produces top quality medium expansion foam when applied through medium expansion branchpipes and bund pourers.

As with any foam, Tankmaster™ is best applied gently on to the burning liquid surface. However, its exceptional resistance to fuel contamination enables it to withstand vigorous mixing with fuel. This makes it ideal for forceful application on to storage tank fires from ground-based mobile monitors or through base (sub-surface) injection systems.

Compatibility

Tankmaster™ is suitable for use in combination with:

- Soft, hard, fresh, brackish or sea water.
- Dry powder extinguishing agents either separately or as twin agent systems.
- Expanded protein-based or synthetic foams for application to a fire in sequence or simultaneously.

Lastfire Test

The LASTFIRE tests have been designed by fire professionals from 16 major oil companies to simulate a bulk storage tank fire. Three test nozzles are used which are intended to mirror the foam properties produced by a large-capacity semi-aspirating monitor, an aspirating "Colossus" foam monitor, and a system pouring nozzle. Independently witnessed tests have proven that Tankmaster™ provides the most cost-effective solution for hydrocarbon storage tank protection.

- 72% score with semi-aspirated nozzle.
- 100% score with conventional "Colossus" aspirating nozzle.
- 100% score with fixed system pourer nozzle.

Tankmaster™ represents an easy upgrade for sites currently using lower performing 3% FluoroProtein or AR-AFFF products on hydrocarbon hazards.

Storage

Tankmaster™ is exceptionally stable in long-term storage. A shelf-life of at

least ten years can be expected if it is stored properly.

Disposal

Tankmaster™ can be successfully treated in biological waste water treatment systems.

Reliability

Tankmaster™ is produced to rigorous quality control standards to ensure consistent fire performance and excellent product reliability. Angus Fire operates a quality management system which complies with the requirements of BS EN ISO 9001:2008.

Typical Physico-Chemical Properties

Appearance		Dark brown liquid
Specific gravity @ 20°C (68°F)		1.16 - 1.18
pH @ 20°C (68°F)		6.8 - 7.4
Viscosity @ 30°C (86°F)	mm ² sec ⁻¹	13.0 - 19.0
Viscosity @ 20°C (68°F)	mm ² sec ⁻¹	20.0 - 30.0
Viscosity @ 0°C (32°F)	mm ² sec ⁻¹	50.0 - 90.0
Viscosity @ -10°C (14°F)	mm ² sec ⁻¹	104.0 - 156.0
Maximum continuous storage temperature	°C (°F)	40 (104)
Maximum intermittent storage temperature	°C (°F)	60 (140)
Effect of freeze/thaw		No performance loss
Lowest use temperature	°C (°F)	-12 (10)
Sediment as shipped	% v/v	≤ 0.25
Sediment after ageing	% v/v	≤ 0.5

Typical Foam Properties:

These vary depending on the performance characteristics of the foam. When tested in accordance with UK Defence Specification 42-41 it gives the following typical properties	
Expansion ratio	≥ 7:1
25% drainage time	≥ 6 mins 30 secs

Packing Specification	Plastic Square		Plastic Cylindrical		Ecobulk MX
Capacity	25 litres	5 US gallons	200 litres	55 US gallons	1000 litres
Empty weight (kg)	1.2	0.8	9.0	9.0	70
Filled weight (kg)	30	23	243	252	1240
Dimensions (mm)	448 x 286 x 286	402 x 293 x 240	580 D x 922 H	580 D x 922 H	1200 L x 1000 W x 1160 H

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