



FIRE FIGHTING⁺ FOAM PRODUCTS

www.firefightings.com

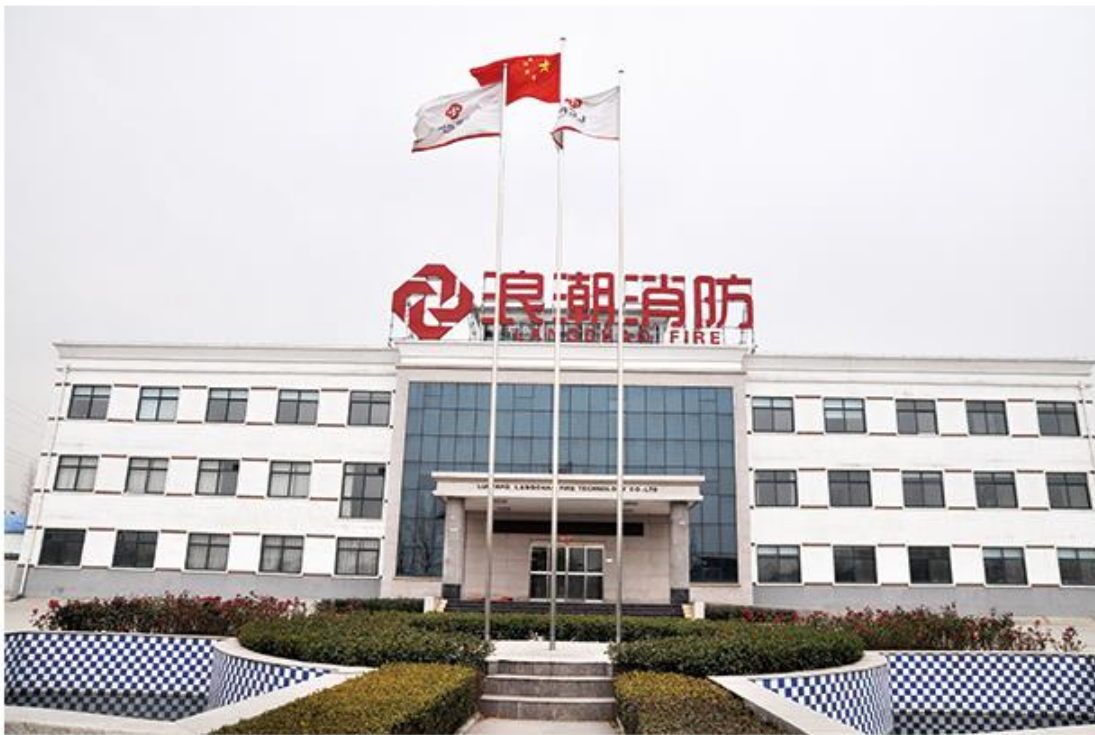


Luoyang Langchao Fire Technology Co., Ltd.

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

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Company Introduction:

Professional manufacturer established from 1954;
77,000 liters output/ day; 11pcs foam synthetic tanks of 7,000 liter v
olume;
Top 2 in China Firefighting Foam Market;
EN1568-3:2008 CE and ICAO level B standard approval;
UL approval coming soon
Independent Lab and Formulation Research Ability

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Aqueous Film Forming Foam (AFFF)

Type: AFFF 1% & AFFF 3% & AFFF 6% (C6 or C8)

Application: Class B fires of hydrocarbon fuel
 Oil field and oil depots, coal mines, large chemical plant, airports and marine ships;
 Storage tanks (non-polar solvent type only);
 Flammable liquid containment areas (non-polar solvent only);
 Truck/rail loading or unloading facilities;
 Processing/ storage facilities;
 Docks/marine tankers;
 Crash Fire Rescue.



Certificate: 1. ICAO level B 2. EN1568-3 3. IMO MSC.1/Circ1312

Physical Data:

Items	Standard		
	AFFF 1%	AFFF 3%	AFFF 6%
Appearance	Light yellowish liquid		
PH Value at 20°C	6.0-9.5	6.0-9.5	6.0-9.5
Freezing point	-30°C (adjustable)	- 10°C (adjustable)	- 12°C (adjustable)
Surface tension(mN/m)	17.2 +/- 10%	17.1 +/- 10%	17.2 +/- 10%
Interfacial tension(mN/m)	2.8 +/- 1.0	2.4 +/- 1.0	2.4 +/- 1.0
Foam Expansion at 20°C	6.5 +/- 1.0 or 20%	6.4 +/- 1.0 or 20%	6.1 +/- 1.0 or 20%
25% Drainage Time at 20°C (min)	1.9 +/- 20%	2.9 +/- 20%	3 +/- 20%
Extinguishing Time (min)	≤3.0	≤3.0	≤3.0
25% Fire-Resistance Time (min)	≥10.0	≥10.0	≥10.0

S-AR (Alcohol Resistance Synthetic foam)

Type: S-AR 3% & S-AR 6%

Application:

suitable for a variety of low multiplier foam generator.

Applied for the production and storage of alcohol, ester, ether, ketone, organic acid and other water-soluble combustible, flammable liquid fire fighting and prevention,

such as:

large chemical plants, wineries, chemical warehouses, shipping.



Physical Data:

Items	Standard
Appearance	Light yellow transparent liquid
PH Value at	6.0-9.5
Specific gravity at 20°C	1.08 +/- 0.04
Freezing point	minus 15°C (adjustable accordingly)
Foam Expansion	6.7 +/- 1.0
25% Drainage Time	6 min +/- 20%
Extinguishing Time	≤3.0min
25% Fire-Resistance Time	≥10.0min

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Alcohol Resistance Aqueous Film Forming Foam (AR-AFFF)

Type: AR-AFFF 1-3% AR-AFFF 3-3% AR-AFFF 3-6% AR-AFFF 6-6%

Application:

Class B fires of hydrocarbon and polar solvent fuel

AR-AFFF foam concentrate are especially effective for extinguishing and securing flammable hydrocarbon and polar solvent fires. High risk facilities such as refineries, pharmaceutical plants, process areas often require AR AFFF foams.



Description:

AR-AFFF 1-3%:

1% (1 part concentrate to 99 parts water) on hydrocarbon fuels,
3% (3 parts concentrate to 97 parts water) on polar solvent/water miscible fuels

AR-AFFF 3-3%:

3 parts concentrate to 97 parts water on hydrocarbon and polar fires

AR-AFFF 3-6%: 3% (3 parts concentrate to 97 parts water) on hydrocarbon fuels,
6% (6 parts concentrate to 94 parts water) on polar solvent/water miscible fuels

AR-AFFF 6-6%: 6 parts concentrate to 94 parts water on hydrocarbon and polar fires

Physical Data:

Items	Standard
Appearance	light yellowish liquid
PH Value at 20°C	6.0-9.5
Freezing point	-5°C (adjustable)
Surface tension(mN/m)	≤25 mN/m
Foam Expansion at 20°C	7x(1±20%)
25% Drainage Time at 20°C	≥2.5 Min
Extinguishing Time	≤3.0 min
25% Fire-Resistance Time	≥10.0

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Class A foam

Type: Class A

Recommended Proportioning Ratio:

Helicopter Bucket 0.3% - 0.5%

Aspirating nozzle 0.3% - 0.5%

Non-aspirating nozzle 0.3% - 0.6%

Compressed air foam system (CAFS) 0.1% - 0.6%

Aspirated foam on small class B fires 1% - 3%

Physical Data:

Items	Standard	Proportioning Ratio
Appearance	Light yellowish liquid	
PH Value at 20°C	6.0-9.5	
Specific gravity at 20°C	1.1+/- 0.01 g/ml	
Freezing point	- 22°C	
Surface tension(mN/m)	≤30.0	
Wetting	≤20.0s	1%
25% Drainage Time at 20°C	foam expansion: 27 +/- 20%; 25% Drainage Time: 11.4min +/- 30%	0.50%
Insulation performance	foam expansion: ≥30; 25% Drainage Time: ≥20.0min	3%
extinguishing performance for Class A fire	foam expansion:27 +/- 20%; Extinguishing time: ≤90.0s; Fire-Resistance Time:≥10.0min	0.50%
Additional request	foam expansion: 27 +/- 20%; 25% Drainage Time: 10min +/- 30%	0.50%
	foam expansion: 27 +/- 20%;	0.50%



Application:

Class A solid fires

It has good performance when use in:

- Tires fire
- Dumpster fires
- Deep seated fires in landfills or hay
- Exposure protection
- Short term fire breaks
- General structure fire fighting
- Large commercial properties which have a high fuel loading of Class “A” materials, such as coal bunkers, silo fires

LC-F500

Type: LC-F500

Application:

1% for class A type fires, 3% for hydrocarbon fires, 6% for polar solvent fires and metal fires

Physical Data:

Appearance	light brown liquid
Surface tension	≤30
PH Value at 20°C	6,0 – 9,5
Freezing point	≤-5°C
Recommended storage temperature	-5 to - 45°C
Foam Expansion(20°C)	≥5 (3%)
	≥6 (6%)
25% Drainage time (20°C)	≥2.5 (3%)
	≥3.5(6%)
Extinguishing Time	Class A: ≤90 s
	Non-polar ≤3 min
	Polar ≤5 min
25%Fire-Resistance Time	≥10.0min



Features:

- Fast extinguishing speed;
- Instant cooler;
- High capacity of Re-burn prevention;
- High efficiency of heat insulation;
- Smoke and dust removed;
- Environment-friendly;



High expansion foam

Type: HI-EXP 3% & HI-EXP 6%

Expand ratios:

from 200:1 to 1000:1

Application:

- good performance for the fire in the limited space
- Large aircraft hangar
- Underground tunnel
- Underground oil depot
- Underground garage and coal mine
- Ship
- Chemical warehouses



Physical Data:

Items	standard
Appearance	Clear pink liquid
PH Value at	6.0-9.5
Specific gravity at 20°C	1.04 +/- 0.01g / ml
Freezing point	-14°C (adjustable)
Liquidity (20°C)	≤25mN/m
Sediment volume%	before aging ≤0.25 can pass 180µm
	after aging ≤1 can pass 180µm
Foam Expansion	≥201
50% Drainage Time 20°C	13min +/- 20%
Extinguishing Time	<150s



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Protein Foam (P3%& P6%)

Type: P3% & P6%

Application:

Class B fires of hydrocarbon fuel.

Description:

This product is made from animal protein. It is biodegradable and environmental.

P3% (3 parts concentrate with 97 parts water)

P6% (6 parts concentrate with 94 parts water)



Physical Data:

Items	Standard	
	P3%	P6%
Appearance	Dark brown liquid	
PH Value at 20°C	6.0~9.5	
Freezing Point	-20° C (adjustable)	-10° C (adjustable)
Sediments	≤0.25	
Foam Expansion(20° C)	5.5 ± 1.0 or 20%	5.3 ± 1.0 or 20%
25% Drainage Time at 20°C (min)	4.8 ± 20%	4.5 ± 20%.
Extinguishing time (min)	≤ 5.0	
25%Fire-Resistance Time (min)	≥ 15.0	



Film Forming Fluoroprotein Foam (FFFP)

Type: FFFP3% & FFFP6%

Application:

Class B fires of hydrocarbon liquid.

Description:

FFFP foam contains hydrolysed protein, preservatives and fluorinated surfactants and forms film on surface of the fuel. It can be applied directly onto the fire surface and is also suitable for subsurface injection.

FFFP 3% (3 parts concentrate with 97 parts water)

FFFP 6% (6 parts concentrate with 94 parts water)



Physical Data:

Items	Standard
Appearance	Dark brown liquid
PH Value at 20°C	6.0-9.5
Freezing Point	-8°C ± 4°C (adjustable)
Surface Tension(mN/m)	17.5 ±10%
Interfacial Tension(mN/m)	2.3±1
Foam Expansion at 20°C	7.2 ± 1.0 or 20%
25% Drainage Time at 20°C (min)	2.5 ± 20%
Extinguishing Time(min)	≤ 3.0
25% Fire Resistance Time(min)	≥ 10.0



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Alcohol Resistant Film Forming Fluoroprotein (AR-FFFP)

Type: AR-FFFP3% & AR-FFFP6%

Application:

Class B fires of hydrocarbon and polar solvent fuel.
It is typically applied to refineries, petrochemical storage facilities, offshore installations etc.

Description:

(AR-FFFP) foam concentrates are ideal for extinguishing and securing flammable hydrocarbon and polar solvent liquid fires.

AR-FFFP3% (3 parts concentrate with 97 parts water)

AR-FFFP6% (6 parts concentrate with 94 parts water)



Physical Data:

Items	Standard
Appearance	Dark brown liquid
PH Value at 20°C	6.0~9.5
Freezing Point	-6° C (adjustable)
Sediments	≤0.25
Foam expansion at 20°C	6.5 ± 1.0 or 20%
25% Drainage Time at 20°C	8.8 ± 20%
Extinguishing time (min)	≤ 5.0
25% Fire-Resistance Time (min)	≥ 10.0



Alcohol Resistant Fluoroprotein Foam (AR-FP)

Type: AR-FP3% & AR-FP6%

Application:

Class B fires of hydrocarbon and polar solvent fuel..
 This extinguishing agent is widely used in initial fire protection and extinguishing fires in large chemical plants, airports, wineries, chemical storerooms, oil depots and shipping venues in which flammable liquid produced or stored. Its performance is superior to protein foam and fluoroprotein foam.

AR-FP3% (3 parts concentrate with 97 parts water)

AR-FP6% (6 parts concentrate with 94 parts water)



Physical Data:



Items	Standard	
	AR-FP3%	AR-FP6%
Appearance	Dark brown liquid	
PH Value (20° C)	6.0~9.5	
Freezing Point	-14°C (adjustable)	-10°C (adjustable)
Sediment	≤0.25	
Foam Expansion	6.4 ± 1 or 20%	7.7 ± 1 or 20%
25% Drainage Time at 20°C (min)	5.6 ± 20%	7.2 ± 20%
Extinguishing Time(min)	≤4.0	≤3.0
25% Fire-Resistance Time(min)	≥10.0	

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Fluoroprotein Foam (FP)

Type: FP3% & FP6%

Application:

Class B fires of hydrocarbon fuel.

Description:

It takes protein foam as basic material, with proper fluoro-carbon surfactant added.

FP3% (3 parts concentrate with 97 parts water)

FP6% (6 parts concentrate with 94 parts water)



Physical Data:

Items	Standard	
	FP3%	FP6%
Appearance	Dark brown liquid	
PH Value at 20° C	6.0- 9.5	
Freezing Point	-20°C (adjustable)	-10°C(adjustable)
Sediments	≤ 0.25	
Foam Expansion at 20° C	5.5 ± 1.0 or 20%	5.4 ± 1.0 or 20%
25% Drainage Time at 20° C(min)	4.8 ± 20%.	4.7 ± 20%
Extinguishing Time (min)	≤ 4.0	
25% Fire-Resistance Time(min)	≥10.0	



S-3/6-AB Water-Based Fire-Extinguishing Agents

Application:

Industrial and mining enterprises, office buildings, fire engines, airport terminals, gas stations, oil tankers, oil fields, oil refineries and other occasions.

Description:

This product is made of wetting agent, flame retardant, surfactant, penetrant, antifreeze, etc. It is suitable for filling water-based fire extinguishers, and can also be used for various water-based fire extinguishing systems. This product is highly efficient, environmentally friendly and 100% biodegradable.



Physical Data:

Items	Technical standard	
Freezing point	Mixture	Basic type: $\leq -10^{\circ}\text{C}$
Antifreeze meltability	No visible stratification and heterogeneity	
PH Value	6.0~9.5	
Surface Tension(mN/m)	Standard $\pm 10\%$	
Toxicity	Fish mortality is not greater than 50%	
Extinguish class A fire performance	$\geq 1\text{A}$	
Extinguish class B fire performance	$\geq 55\text{B}$	



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ABC Dry Chemical Powder(monoammonium phosphate)

Type: ABC 30% ~ 90%

Application:

ABC dry chemical powder is a multipurpose chemical extinguishing powder for class A, class B and class C fires. It is used to extinguish fires of ordinary combustible material.

Class A fire: Rubber, Wood, Cloth, Plastic, etc.

Class B fire: flammable liquid, oil, gases etc.

Class C fire: Energized electric equipment.

ABC dry chemical agent is widely applied to hand portable and wheeled extinguishers, large stationary unites, mobile units and various fixed nozzle pipe systems.



BC Dry Chemical powder (Sodium Bicarbonate)

Type: BC 20% ~ 90%

Application:

BC dry chemical powder is to extinguish fires of class B, such as flammable liquid, like oil , gases and class C fires of energized electric equipment . It is widely applied to hand portable and wheeled extinguishers, large stationary units, mobile units and various fixed nozzle piped systems

