



FireChem

VERTICAL & HORIZONTAL BLADDER TANKS

Foam Proportioning Equipment

DESCRIPTION

FireChem Bladder Tanks store foam concentrate and are one component of a Balanced Pressure Foam System. They require no external power, other than a supply of water to ensure proper operation. The Vertical and Horizontal Bladder tanks are designed and constructed in accordance with the latest revisions to ASME code, Section VIII for unfired pressure vessels. They have a working pressure of 175 PSI and they are tested to one and one half times this pressure.

FireChem bladder tank is a steel pressure vessel which stores a foam concentrate contained within an elastomeric bladder. The concentrate is discharged from the tank by incoming water applying pressure to the bladder. This applied energy is transferred to the concentrate, supplying pressurized concentrate to the proportioner. (Proportioners are separate items described on a separate data sheet. FireChem bladder tanks are available in both vertical and horizontal tank models and a variety of nominal capacities as listed in the tank information tables. Both tank models feature perforated center tubes which allow improved agent discharge.

FEATURES

- ✍ Water pressurized bladder construction, alleviating the requirement for foam pumps or other energy sources.
- ✍ Bladder is manufactured of nylon reinforced Buna-N. The bladder material shall have a mullen burst pressure in excess of 800 PSI and constructed to conform to the inside dimensions of the tank.
- ✍ Valves that are pinned in the normal operative positions and are supplied with nameplates identifying their functions and operating instructions

- ✍ Bladder tanks are supplied with corrosion-resistant piping
- ✍ Exterior tank surfaces finished in red standard system paint or coated with an epoxy "CR" red finish for use in marine or corrosive environments
- ✍ Tanks with a high build epoxy coated interior for use with both fresh and salt water
- ✍ All tanks are approximately 10% oversized to allow for any thermal expansion of the foam concentrate.
- ✍ All tanks supplied with a label identifying type of foam concentrate the system is designed for, the percentage ratio and tank size.

APPROVALS

FireChem vertical and horizontal tank assemblies are both applied for Underwriters Laboratories listing and Factory Mutual approval with various FireChem proportioners and foam concentrates.





FireChem

VERTICAL & HORIZONTAL BLADDER TANKS

Foam Proportioning Equipment

DIMENSIONS

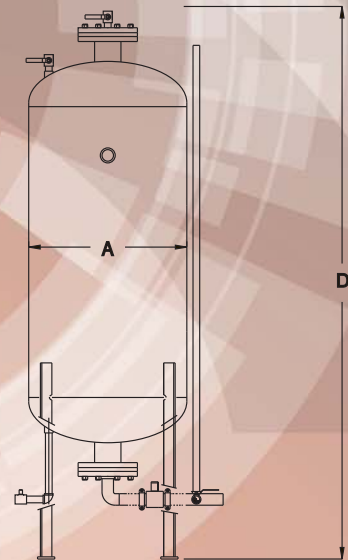
SIZE	A DIA	B L HOR	C H HOR	D H VER	WGT
36	24			53	390
50	24			62	470
75	24			78	600
100	24	73	49	91	720
150	36			73	1050
200	36	72	60	86	1320
250	36	85	60	100	1480
300	36	95	60	110	1600
350	36	109	60	124	1800
400	36	121	60	136	2000
450	36	135	60	150	2175
500	48	89	73	104	2350
600	48	105	73	120	2800
700	48	123	73	137	3050
800	48	135	73	155	3400
1000	48	159	73	176	3900
1070	60	118	84	133	4100
1200	60	129	84	150	4370
1350	60	141	84	158	4700
1600	72	123	96	140	5130
1800	72	135	96	155	5510
2000	72	148	96	167	6030
2300	84	130	108	148	6610
2500	84	142	108	158	6850
2800	84	153	108	169	7500
3300	84	178	108	194	8575
3900	84	202	108	118	9925
4400	84	226	108	142	10925
5000	84	250	108	165	12000
5200	96	210	120	225	12400

Water inlets are 20 NPT on tanks up to 450 gallons. For tank capacities over 450 gallons and up to 5000 gallons, water inlets are 30 NPT. For tanks over 5,200 gallons, the water inlets are 40 NPT. The standard foam concentrate outlet is grooved, flanged or threaded. Outlets are available to meet customer requirements.

ORDERING INFORMATION

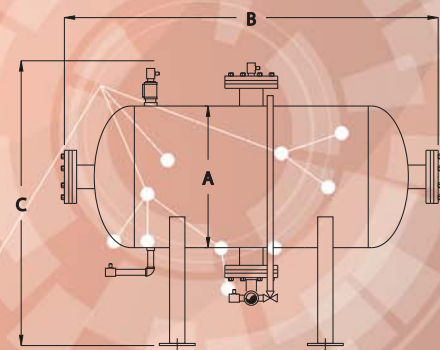
When ordering FireChem Tanks, it is necessary to provide the following information:

- Type of tank required; Vertical or Horizontal.
- Size of tank.
- Exterior finish of tank.
- Whether required for salt water environment.
- Any other options required.



VERTICAL BLADDER TANK

Available in 36 to 8000 Gallon Capacities



HORIZONTAL BLADDER TANK

Available in 100 to 8000 Gallon Capacities



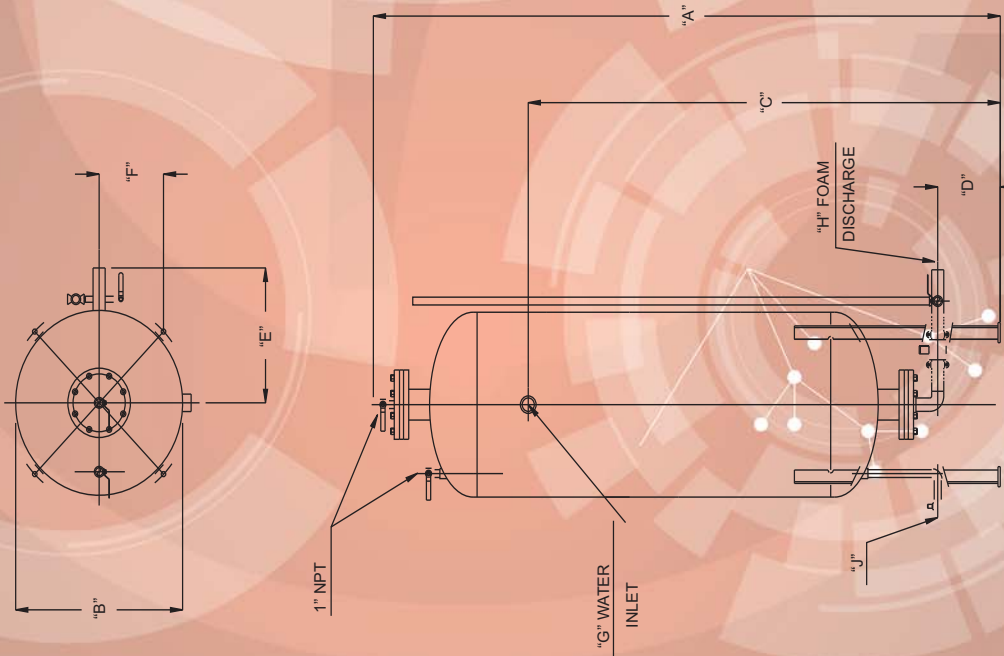
FireChem

VERTICAL & HORIZONTAL BLADDER TANKS

Foam Proportioning Equipment

VERTICAL BLADDER TANK

SIZE	A	B	C	D	E	F	G	H	J
36	51	24	35	7 1/2	16	9 1/2	2	2	1
50	59	24	43	7 1/2	16	9 1/2	2	2	1
75	75	24	59	7 1/2	16	9 1/2	2	2	1
100	87	24	71	7 1/2	16	9 1/2	2	2	1
150	69	36	51	7 1/2	22	9 1/2	2	2	1
200	83	36	65	7 1/2	22	9 1/2	2	2	1
250	97	36	79	7 1/2	22	9 1/2	2	2	1
300	107	36	89	7 1/2	22	9 1/2	2	2	1
350	121	36	103	7 1/2	22	9 1/2	2	2	1
400	133	36	115	7 1/2	22	9 1/2	2	2	1
450	147	36	129	7 1/2	22	9 1/2	2	2	1
500	101	48	79	6	28	12	3	3	1
600	117	48	95	6	28	12	3	3	1
700	135	48	113	6	28	12	3	3	1
800	153	48	131	6	28	12	3	3	1
1000	173	48	151	6	28	12	3	3	1 1/2
1070	131	60	107	6	34	15	3	3	1 1/2
1200	143	60	119	6	34	15	3	3	1 1/2
1350	155	60	131	6	34	15	3	3	1 1/2
1600	137	72	110	6	40	18	3	3	1 1/2





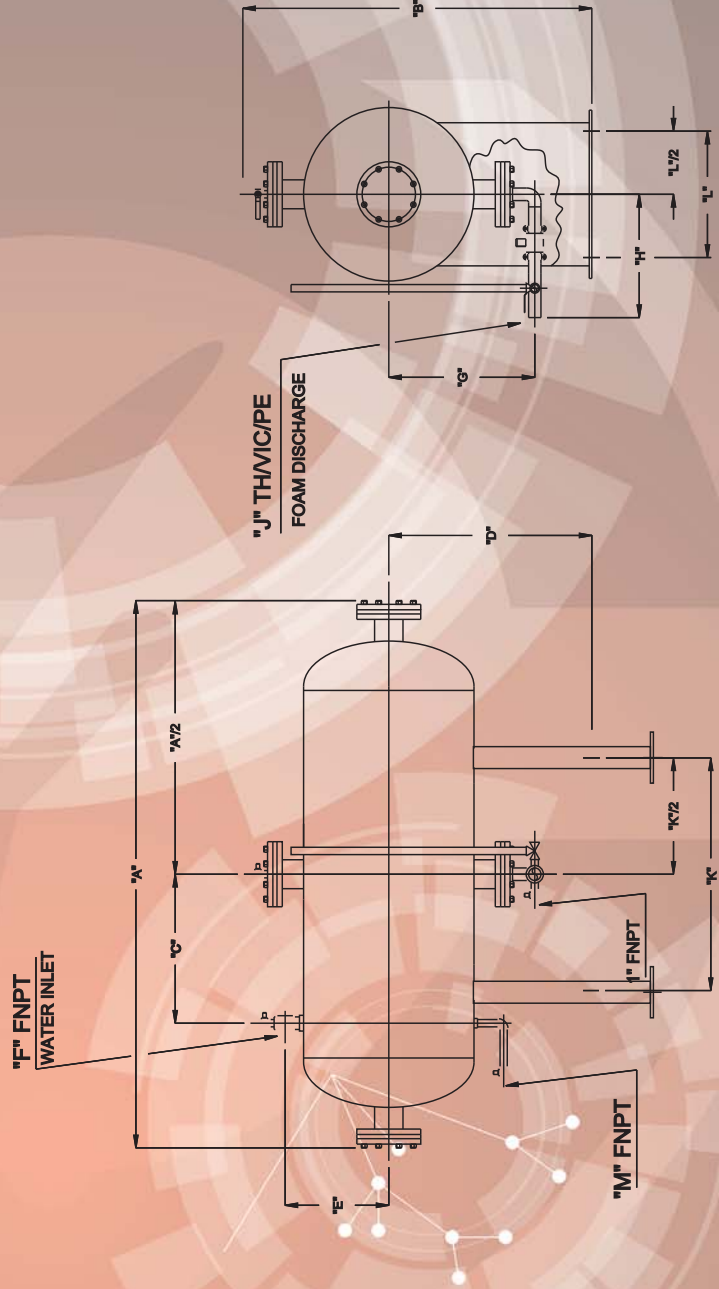
FireChem

VERTICAL & HORIZONTAL BLADDER TANKS

Foam Proportioning Equipment

HORIZONTAL BLADDER TANK

SIZE	A	B	C	D	E	F	G	H	J	K	L	M	WGT
100	75"	42"	21"	27"	19"	2"	19-1/2"	16	2"	28"	18"	1"	735
200	72"	54"	21"	33"	25"	2"	25-1/2"	22	2"	19"	27"	1"	1325
250	84"	54"	24"	33"	25"	2"	25-1/2"	22	2"	28"	27"	1"	1490
300	96"	54"	27"	33"	25"	2"	25-1/2"	22	2"	32"	27"	1"	1615
350	108"	54"	30"	33"	25"	2"	25-1/2"	22	2"	40"	27"	1"	1810
400	120"	54"	33"	33"	25"	2"	25-1/2"	22	2"	46"	27"	1"	2005
450	135"	54"	36"	33"	25"	2"	25-1/2"	22	2"	54"	27"	1"	2180
500	90"	66"	25"	39"	32"	3"	30"	28	3"	26"	36"	1"	2360
600	105"	66"	29"	39"	32"	3"	30"	28	3"	34"	36"	1"	2815
700	123"	66"	34"	39"	32"	3"	30"	28	3"	44"	36"	1"	3060
800	135"	66"	36"	39"	32"	3"	30"	28	3"	50"	36"	1"	3415
1000	159"	66"	43"	39"	32"	3"	30"	28	3"	68"	36"	1-1/2"	3920
1070	120"	78"	33"	45"	38"	3"	36"	34	3"	28"	48"	1-1/2"	4150
1200	132"	78"	34"	45"	38"	3"	36"	34	3"	34"	48"	1-1/2"	4375
1350	144"	78"	39"	45"	38"	3"	36"	34	3"	48"	48"	1-1/2"	4675
1600	125"	90"	45"	51"	44"	3"	42"	40	3"	36"	57"	1-1/2"	5140





FireChem

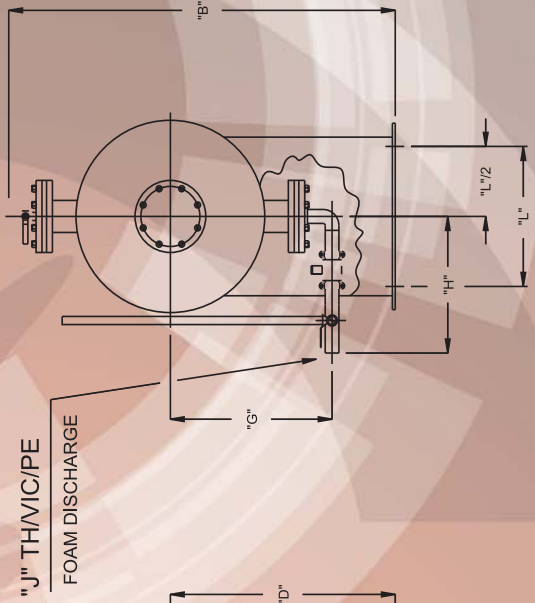
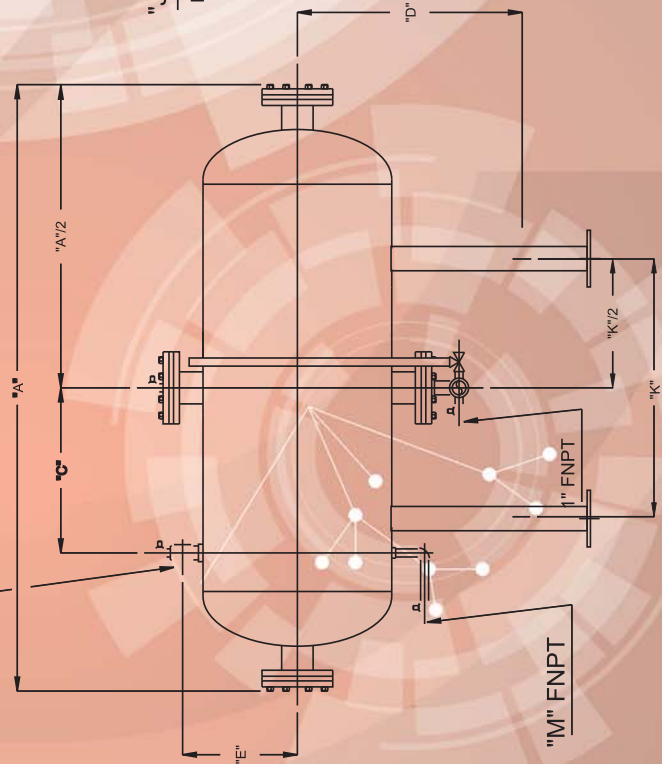
VERTICAL & HORIZONTAL BLADDER TANKS

Foam Proportioning Equipment

HORIZONTAL BLADDER TANK

SIZE	A	B	C	D	E	F	G	H	J	K	L	M	WGT
1800	135"	97"	37"	51"	19"	3"	45"	77-1/2"	3"	42"	57"	1-1/2"	5515
2000	147"	97"	43"	51"	25"	3"	45"	77-1/2"	3"	48"	57"	1-1/2"	6040
2300	130"	109"	31"	57"	25"	3"	51"	89-1/2"	3"	36"	66"	2"	6640
2500	144"	109"	37"	57"	25"	3"	51"	89-1/2"	3"	42"	66"	2"	6900
2800	156"	109"	43"	57"	25"	3"	51"	89-1/2"	3"	48"	66"	2"	7520
3300	180"	109"	55"	57"	25"	3"	51"	89-1/2"	3"	70"	66"	2"	8600
3900	201"	109"	67"	57"	25"	3"	51"	89-1/2"	3"	94"	66"	2"	9975
4400	225"	109"	79"	57"	25"	3"	51"	89-1/2"	3"	118"	66"	2"	10950
5000	249"	109"	91"	57"	32"	3"	51"	89-1/2"	3"	142"	66"	2"	12150
5200	207"	121"	67"	63"	32"	3"	58-3/4"	101-1/2"	4"	94"	78"	2"	
5900	231"	121"	79"	63"	32"	3"	58-3/4"	101-1/2"	4"	118"	78"	2"	
6600	255"	121"	91"	63"	32"	3"	58-3/4"	101-1/2"	4"	142"	78"	2"	
7300	279"	121"	103"	63"	32"	3"	58-3/4"	101-1/2"	4"	166"	78"	2"	
8000	306"	121"	115"	63"	38"	3"	58-3/4"	101-1/2"	4"	190"	78"	2"	

"F" FNPT
WATER INLET



PRE QUALIFICATION



f FIRE
foams

Performance Guaranteed Choice

COMPANY PROFILE

FireChem is committed to serve you better by providing the best possible **Fire Chemical Solutions** to meet the modern challenges of Fire & Safety requirements involving Flammable Liquids Hazards & Gaseous Hazards inherent to **Oil & Gas, Aviation, Industrial & Civil** Sectors.

FireChem was established in **1999** as part of **Fire Safety Devices Group** and has grown to become the largest **Fire Extinguishing Chemicals** manufacturer in the **Asia**. **FireChem** has a reputed place among the top manufacturers in the Global Fire Fighting Chemicals Industry.

FireChem's reputation for Quality and Reliability is widely acclaimed and its products meet various National and International Standards. The product quality is further endorsed by certification agencies like - **Underwriters Laboratories (UL), Germanischer Lloyd (GL), Det Norske Veritas (DNV), Lloyd's Register (LR), Bureau Of India Standards (BIS)** etc. **FireChem** is certified to **ISO 9001** Quality management system and **ISO 14000** for Environmental Management System.

FireChem is in a position to offer any type of Foam Fire Extinguishing Concentrate which can comply **International Standards** like **UL 162, US Mil Spec, ICAO Level A & B, UK Defence, EN 1568** etc.

FireChem has a wide range of products which includes :

- Fire Fighting Foam Concentrates
(AFFF 1%/3%/6%, AFFF AR 3%/6%, FP 3%/6%, FFFP 3%/6%, FP-AR 3%, FFFP-AR 3%, Fluorine Free Foam, High Expansion Foam, Wetting Agent, Class A Foam etc.)
- Fire Extinguishing Powders
(ABC, BC, Class D, OLFEX -Monnex Equivalent)
- Spill Management Chemicals
(Oil Spill Dispersant Type II & III)
- Dust Suppression Chemicals
(Mining Industry Use)
- Fire Proofing Chemicals
(Flame Retardant for Textiles)

FireChem always focus on maximizing the fire performance of our products, while minimizing the environmental impact to the maximum extent possible. **FireChem** follows the Latest Generation Foam Chemistry is meets and exceeds the requirement of **US - EPA**. **FireChem** foams are 100% Bio-degradable and low in toxicity.



AFFF



AFFF-AR



FFFP



FFFP-AR



FP



CLASS A



HIGH
FOAM



HAZMAT

ISO 9001 : 2008 CERTIFICATION

Firecore

CONFORMANCE VERIFICATION INTERNATIONAL

CVI **QUALITY SYSTEM CERTIFICATE**

10438 1

This is to certify that
the Quality Management System of

M/s Fire Safety Devices Pvt. Ltd.

B-4, SECOND FLOOR, RAMA PALACE COMMERCIAL COMPLEX,
NEAR AJRONDA, SEC-20 B, FARIDABAD-121007

is in compliance with the Quality Management System Standard

ISO 9001:2008

This Certificate is applicable to the following activities:

MANUFACTURING OF DRY CHEMICAL POWDER: SODIUM BI CARBONATE
BASED; POTASSIUM BI CARBONATE BASED; ABC DRY CHEMICAL POWDER,
OLFEX POWDER (ISRO TECHNOLOGY) FIRE FIGHTING FOAMS & CHEMICALS
SUCH AS AQUEOUS FILMFORMING FOAM (AFFF) ALCOHAL RESISTEANT
FOAM- AFFF, FLURO PROTEIN FOAMS, FIRE FIGHTING EQUIPMENTS &
SAFETY EQUIPMENTS & CLEAN AGENT FIRE EXTINGUISHER.

Validation of this-certificate 02. 12. 2010

Certification is valid from 03. 12. 2009 to 02. 12. 2012

subject to passing two surveillance audits during 6-12 months and 18-24 months of the certification date



Ing. Jan Gasper
director

Certification is granted by: CVI, s.r.o., MPCL 3170/01, 058 01 Poprad, Slovakia, EU

For precise and up-to-date information on possible changes in the status of the certification referred to
in this certificate, please phone to the number: +421 944 013385 or e-mail to the address: info@cvilab.sk

or contact

Veritas CVI Certifications (P) Ltd.

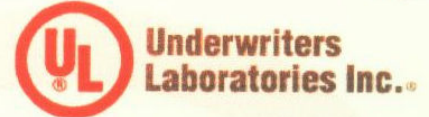
14 SF, Krishna Palace, Neelam Flyover, Faridabad - 121007, India.
Phone: +91-129-4109000 Call: 09910088773 Website: www.cvilab.com Email: info@cvilab.com

U L CERTIFICATION

Certificate of Compliance

Certificate Number 20080716-EX6982
Report Reference EX6982, 2005 August 05
Issue Date 2008 July 16

Page 2 of 2



This is to verify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Firechem 3% AFFF, nominal 3 percent Aqueous Film Forming Foam, +35 F minimum storage and use temperature. Hydrocarbon fuels only.

Firechem 6% AFFF, nominal 6 percent Aqueous Film Forming Foam, +35 F minimum storage and use temperature. Hydrocarbon fuels only.

Firechem 1% AFFF, nominal 1 percent Aqueous Film Forming Foam, +35 F min storage and use temperature. Hydrocarbon fuels only.

Firechem 3% Fluoroprotein, nominal 3 percent, +35 F minimum storage and use temperature. Hydrocarbon fuels only.

Firechem 6% Fluoroprotein, nominal 6 percent, +35 F minimum storage and use temperature. Hydrocarbon fuels only.

Firechem 3 x 3 AR-AFFF, nominal 3 percent Alcohol Resistant Aqueous Film Forming Foam, +35 F min storage and use temperature. Hydrocarbon fuels at 3 percent. Polar solvent fuels at 3 percent.

Firechem 3 x 6 AR-AFFF, nominal 3 or 6 percent Alcohol Resistant Aqueous Film Forming Foam, +35 F min storage and use temperature. Hydrocarbon fuels at 3 percent. Polar solvent fuels at 6 percent.

Issued by: *Sumit Khanna*

Sumit Khanna, Associate Project Engineer

UL India Private Limited

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL. For questions in India you may call +91-80-41384400.

Reviewed by: *Matthew D. Tennenbaum*

Matthew D. Tennenbaum, Staff Engineer

Underwriters Laboratories Inc.

EN 1568 : 3 CERTIFICATE

Bauaufsichtlich anerkannte Prüf-, Überwachungs- und Zertifizierungsstelle
Amtlich anerkannte Prüfstelle für Feuerlöschmittel und -geräte
DIN EN ISO/IEC 17025: DAP-PL-1137.00, ZLS-P-621/05 (GS)
DIN EN 45011: ZLS -ZE-510/05 (GS)
Notified Body no. 0767
Mitglied des Verbandes der Materialprüfungsämter e.V.



Certificate

for fire extinguishing media

This is to confirm that the below mentioned aqueous film-forming DIN EN 1568 foam concentrate is suitable for generation of low expansion foam for fire extinguishing purposes for the fire classes A and B according to DIN EN 2. The extinguishing medium is approved in accordance with the requirements of the standard DIN EN 1568-3 as well as on basis of the available test reports under the following certification number:

SP 103/08

Test report no: 2008-F-3861

Holder of certificate: FireChem, (A Unit of Fire Safety Devices Pvt. Ltd.)
B-4, Rama Commercial Complex, Sector 20B, Faridabad Haryana
INDIA 121 007

Manufacturer: FireChem, (A Unit of Fire Safety Devices Pvt. Ltd.)
B-4, Rama Commercial Complex, Sector 20B, Faridabad Haryana
INDIA 121 007

Name of the product: FireChem Aqueous Film Forming Foam AFFF 3%

Ingredients notified: -

Fire extinguishing performance: Extinguishing performance class and burnback resistance level:
Low expansion foam to DIN EN 1568-3 with potable water/with simul. sea water: **IA / IA**

Freezing point: - 3 °C

Information: The packing of the fire extinguishing medium is to mark with the required information, e.g. according to the Gefahrstoffverordnung. Additionally is to state: **Caution! There is no possibility to breath for persons staying in the foam. Avoid eye contact.**
Foam concentrate not to be stored below 0°C.

The fire extinguishing medium is tested according to DIN EN 1568-3. Conformity with DIN EN 1568-3 is confirmed.
The packing of the medium is permanently to mark with the required information of the extinguishing medium. Additionally it is allowed to mark the product with the certification number **SP 103/08** as registered according to this certificate.
This certification is valid only for fire extinguishing media those comply with the supplied and stored test sample.
Certificates of conformity of portable or mobile fire extinguishers are valid in connection with the fire extinguishing media only the type test of the fire extinguisher has been performed.
The above specified European standards relate to the date of this certification.

2008-11-25

i.v. K. Beyer

Ranke
Certification Office

MPA Dresden GmbH
Fuchsmühlenweg 6F
D-09599 Freiberg
Tel.: +49(0)3731-2 03 93-0
Fax: +49(0)3731-2 03 93-110

Geschäftsführer: Thomas Hübler
Steuernummer: 220/114/03011
Amtsgericht Chemnitz HR B 21581
Internet: www.mpa-dresden.de
E-Mail: info@mpa-dresden.de

Kreissparkasse Freiberg
Poststraße 1a
D-09599 Freiberg
Kto.: 3115024672
BLZ: 870 520 00

UST-IdNr.: DE234220069
IBAN DE68 8705 2000 3115 0246 72
BIC WELADED1FGX



MARINE APPROVAL FOR FP 3%

Firechem



Germanischer Lloyd

Approval Certificate

This is to certify, that the undernoted products have been approved in accordance with the relevant requirements of the GL Approval System.

Certificate No. 58 868 - 08 HH

Company Fire Safety Devices Pvt. Ltd.
Sector 20 B, Near Ajrona Modh Faridabad
Haryana, India

Product Fluorine protein foam concentrate for generation of low-expansion foam for fire-fighting equipment

Type "Fire Chem" Fluoro Protein Foam 3 %

Technical Data / Application

Technical Data	
Admixing rate	3 %
Foam expansion factor	up to 12
pH Value (at 20 °C)	6.5-8.5
Storage temperature	above -5 °C, below +50 °C

Range of Application

For use in fixed foam fire extinguishing systems and portable / mobile fire extinguishers on board ships and offshore structures.

Approval Standard IMO MSC/Circ.582

Documents

- Test report no. TRP/TRG/372/582 of 2007, issued by the laboratory "Gujarat Industrial Research & Development Agency" in Baroda (India)
- Material Safety Data Sheet and technical specification issued by FireChem

Remarks Manufacturers' instructions to be observed.

Valid until 2013-05-13

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File No. XI.E.05

Hamburg, 2008-05-13

Germanischer Lloyd

Hanspeter Raschle
Hanspeter Raschle

Michael Kämpf
Michael Kämpf

MARINE APPROVAL FOR FP 6%

Firechem



Germanischer Lloyd

Approval Certificate

This is to certify, that the undernoted products have been approved in accordance with the relevant requirements of the GL Approval System.

Certificate No. 58 868 - 08 HH

Company Fire Safety Devices Pvt. Ltd.
Sector 20 B, Near Ajronda Modh Faridabad
Haryana, India

Product Fluorine protein foam concentrate for generation of low-expansion foam for fire-fighting equipment

Type "Fire Chem" Fluoro Protein Foam 6 %

Technical Data / Application

Technical Data	
Admixing rate	6 %
Foam expansion factor	up to 12
pH Value (at 20 °C)	6.5-8.5
Storage temperature	above -5 °C, below +50 °C

Range of Application

For use in fixed foam fire extinguishing systems and portable / mobile fire extinguishers on board ships and offshore structures.

Approval Standard IMO MSC/Circ.582

Documents

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Valid until 2013-05-13

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File No. XI.E.05

Hamburg, 2008-05-13

Germanischer Lloyd


Hanspeter Raschle


Michael Kämpf

FireChem

DECLARATION OF SAFETY

We here by declare that fire fighting foams produced by FireChem does not contain any PFOS. The fluorochemicals used by FireChem are made by a fundamentally different process called "telomerization", they have totally different molecular structures, and there is no evidence that they accumulate in human tissues.

Furthermore, FireChem products contains fluorochemical levels typically 50% lower than equivalent old products with no compromise in fire fighting performance.

FireChem Fire Fighting Foams are bio-degradable, low in human toxicity, aquatic toxicity and can be treated in common sewage treatment plants.



AFFF



AFFF-AR



FFFP



FFFP-AR



FP



CLASS A



HIGH
FOAM



HAZMAT



ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCF3UL AFFF 3%

FireChem Foamplus FCF3UL is superior quality aqueous film-forming foam which can be used at the specified concentration to extinguish fires of non – polar hydrocarbon fuels. This extinguishing agent is suitable for use with most types of proportioning and discharge equipment. AFFF foam concentrates are designed for rapid fire knockdown by producing a thin aqueous film which helps to prevent the release of fuel vapours. The foam blanket from which the film forming liquid drains separates oxygen from the fuel surface, extinguishes the fire and prevents re-ignition. The water content of the foam provides a cooling effect. The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. Foamplus FCF3UL provides excellent penetrating and wetting qualities when used on Class A fires also. This is important when extinguishing deep-seated fires in wood, paper, rubber and other ordinary combustibles.

Features

- UL Listed Foam Liquid Concentrate.
- Suitable for use with both aspirating foam and standard water fog nozzles
- If inadvertently frozen, thawing will render product completely serviceable again
- Suitable for use with fiber glass, polyethylene or stainless steel. Foamplus FCF3UL is not compatible with galvanised pipe or fittings in an undiluted form
- Suitable for use with either fresh or salt water
- Suitable for use with deluge or closed head foam water sprinkler systems
- Suitable for use with siliconised dry chemical extinguishing agents
- U.L. recommended application rate on hydrocarbon type fuels is 0.10gpm/ft²

Applications

FireChem Foamplus FCF3UL will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks (non-polar solvent type fuels only)
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Foamplus FCF3UL AFFF 3% is measured against **Underwriters Laboratories Standard UL 162**.



**Environmentally Friendly
New Foam Chemistry**



Discharge Devices

FireChem Foamplus is suitable for use with the following discharge devices:

- Foam Chambers
- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles
- Standard water fog nozzles for handlines and monitors
- Air-aspirating foam nozzles
- Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems
- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Foamplus is designed for use with the following types of proportioning equipment:

- Fixed or portable in-line eductors
- In-line balanced pressure and pump pressure proportioning skid
- Bladder tank proportioning systems
- Handline, air-aspirating nozzles with fixed eductor pickup tube
- Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCF3UL AFFF 3%

Typical Specification	
Product	AFFF3%
Use Concentration	3%
Specific Gravity	1.02 ± 0.05 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	<10 cst
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 7
Foam Drainage 25%	3 minutes minimum

Storage And Handling

FireChem Foamplus may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 10 years or more when stored at recommended temperatures and in original containers. It does not show significant sedimentation or precipitation in storage or after temperature cycling. Freezing and thawing have no effect on performance and the concentrate proportions satisfactorily in ordinary equipment at temperatures above +2°C.

Synthetic foam concentrates should only be stored in stainless steel (Type 304L or 316), reinforced fiberglass polyester with a vinyl ester resin internal layer coating or plastic containers.

Environmental Impact

FireChem Foamplus FCF3UL AFFF 3% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Foamplus FCF3UL AFFF3%- JA	20L Jerry can
Foamplus FCF3UL AFFF3%- JB	25L Jerry can
Foamplus FCF3UL AFFF3%- D	200L Drum
Foamplus FCF3UL AFFF3%- IBC	1000L IBC

Note: We reserve the right to modify specifications without prior notice.

FireChem™

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ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCF6UL AFFF 6%

FireChem Foamplus FCF6UL is superior quality aqueous film-forming foam which can be used at the specified concentration to extinguish fires of non – polar hydrocarbon fuels. This extinguishing agent is suitable for use with most types of proportioning and discharge equipment. AFFF foam concentrates are designed for rapid fire knockdown by producing a thin aqueous film which helps to prevent the release of fuel vapours. The foam blanket from which the film forming liquid drains separates oxygen from the fuel surface, extinguishes the fire and prevents re-ignition. The water content of the foam provides a cooling effect. The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. Foamplus FCF6UL provides excellent penetrating and wetting qualities when used on Class A fires also. This is important when extinguishing deep-seated fires in wood, paper, rubber and other ordinary combustibles.

Features

- UL Listed Foam Liquid Concentrate.
- Suitable for use with both aspirating foam and standard water fog nozzles
- If inadvertently frozen, thawing will render product completely serviceable again
- Suitable for use with fiber glass, polyethylene or stainless steel. Foamplus FCF6UL is not compatible with galvanised pipe or fittings in an undiluted form
- Suitable for use with either fresh or salt water
- Suitable for use with deluge or closed head foam water sprinkler systems
- Suitable for use with siliconised dry chemical extinguishing agents
- U.L. recommended application rate on hydrocarbon type fuels is 0.10 gpm/ft²

Applications

FireChem Foamplus FCF6UL will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks (non-polar solvent type fuels only)
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Foamplus FCF6UL AFFF 6% is measured against **Underwriters Laboratories Standard UL 162**.



**Environmentally Friendly
New Foam Chemistry**



Discharge Devices

FireChem Foamplus is suitable for use with the following discharge devices:

▪ Foam Chambers

- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles

▪ Standard water fog nozzles for handlines and monitors

- Air-aspirating foam nozzles

▪ Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems

- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Foamplus is designed for use with the following types of proportioning equipment:

▪ Fixed or portable in-line eductors

- In-line balanced pressure and pump pressure proportioning skid

▪ Bladder tank proportioning systems

- Handline, air-aspirating nozzles with fixed eductor pickup tube

▪ Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers

FOAM CONCENTRATES UL LISTED



ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCF6UL AFFF 6%

Typical Specification	
Product	AFFF6%
Use Concentration	6%
Specific Gravity	1.01 ± 0.05 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	<10 cst
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 7
Foam Drainage 25%	3 minutes minimum

Storage And Handling

FireChem Foamplus may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 10 years or more when stored at recommended temperatures and in original containers. It does not show significant sedimentation or precipitation in storage or after temperature cycling. Freezing and thawing have no effect on performance and the concentrate proportions satisfactorily in ordinary equipment at temperatures above +2°C.

Synthetic foam concentrates should only be stored in stainless steel (Type 304L or 316), reinforced fiberglass polyester with a vinyl ester resin internal layer coating or plastic containers.

Environmental Impact

FireChem Foamplus FCF6UL AFFF 6% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Foamplus FCF6UL AFFF6%- JA	20L Jerry can
Foamplus FCF6UL AFFF6%- JB	25L Jerry can
Foamplus FCF6UL AFFF6%- D	200L Drum
Foamplus FCF6UL AFFF6%- IBC	1000L IBC

Note: We reserve the right to modify specifications without prior notice.

FireChem™

(A Group Company of Fire Safety Devices Pvt. Ltd.)



ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCF1UL AFFF 1%

FireChem Foamplus FCF1UL is superior quality aqueous film-forming foam which can be used at the specified concentration to extinguish fires of non – polar hydrocarbon fuels. This extinguishing agent is suitable for use with most types of proportioning and discharge equipment. AFFF foam concentrates are designed for rapid fire knockdown by producing a thin aqueous film which helps to prevent the release of fuel vapours. The foam blanket from which the film forming liquid drains separates oxygen from the fuel surface, extinguishes the fire and prevents re-ignition. The water content of the foam provides a cooling effect. The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. Foamplus FCF1UL provides excellent penetrating and wetting qualities when used on Class A fires also. This is important when extinguishing deep-seated fires in wood, paper, rubber and other ordinary combustibles.

Features

- UL Listed Foam Liquid Concentrate.
- Suitable for use with both aspirating foam and standard water fog nozzles
- If inadvertently frozen, thawing will render product completely serviceable again
- Suitable for use with fiber glass, polyethylene or stainless steel. Foamplus FCF1UL is not compatible with galvanised pipe or fittings in an undiluted form
- Suitable for use with either fresh or salt water
- Suitable for use with deluge or closed head foam water sprinkler systems
- Suitable for use with siliconised dry chemical extinguishing agents
- U.L. recommended application rate on hydrocarbon type fuels is 0.10gpm/ft²

Applications

FireChem Foamplus FCF1UL will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks (non-polar solvent type fuels only)
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Foamplus FCF1UL AFFF 1% is measured against **Underwriters Laboratories Standard UL 162**.



**Environmentally Friendly
New Foam Chemistry**



Discharge Devices

FireChem Foamplus is suitable for use with the following discharge devices:

- Foam Chambers
- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles
- Standard water fog nozzles for handlines and monitors
- Air-aspirating foam nozzles
- Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems
- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Foamplus is designed for use with the following types of proportioning equipment:

- Fixed or portable in-line eductors
- In-line balanced pressure and pump pressure proportioning skid
- Bladder tank proportioning systems
- Handline, air-aspirating nozzles with fixed eductor pickup tube
- Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCF1UL AFFF 1%

Typical Specification	
Product	AFFF1%
Use Concentration	1%
Specific Gravity	1.05 ± 0.05 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	<10 cst
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 7
Foam Drainage 25%	3 minutes minimum

Storage And Handling

FireChem Foamplus may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 10 years or more when stored at recommended temperatures and in original containers. It does not show significant sedimentation or precipitation in storage or after temperature cycling. Freezing and thawing have no effect on performance and the concentrate proportions satisfactorily in ordinary equipment at temperatures above +2°C.

Synthetic foam concentrates should only be stored in stainless steel (Type 304L or 316), reinforced fiberglass polyester with a vinyl ester resin internal layer coating or plastic containers.

Environmental Impact

FireChem Foamplus FCF1UL AFFF 1% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Foamplus FCF1UL AFFF1%- JA	20L Jerry can
Foamplus FCF1UL AFFF1%- JB	25L Jerry can
Foamplus FCF1UL AFFF1%- D	200L Drum
Foamplus FCF1UL AFFF1%- IBC	1000L IBC

Note: We reserve the right to modify specifications without prior notice.

FireChem™

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ENVIRONMENTALLY FRIENDLY FOAM

Fluoroplus FCFP3UL FP 3%

FireChem Fluoroplus FCFP3UL is a fluoroportein foam concentrates containing fluorinated surfactants in a carefully formulated protein foam liquid base. This ensures the production of a stabilised fluid foam which will cover a burning hydrocarbon fuel surface very rapidly. The water soluble fluoro surfactant makes the foam hydrocarbon repellent and reduces the amount of burning particles absorbed by the foam in fighting the hydrocarbon fuel fires. Once fire extinction has been achieved the high stability of the foam blanket ensures against the risk of re-ignition and provides excellent protection against 'burn-back' should any inaccessible pockets of fire remains.

FireChem Fluorofoam 3PUL should be used as a 3% proportioned solution in fresh or sea water. It may be also used and stored as 3% pre-mix in fresh / potable water. The correct proportioned or mixture ratio is 3 parts of concentrate and 97 parts of water.

Features

- UL LISTED Foam Liquid Concentrate
- Suitable to combat MTBE & ULG fires
- Suitable for use with either fresh or salt water
- Suitable for use in fixed foam protection systems including sub-surface into hydrocarbon fuels
- Suitable for use with all siliconized dry chemical extinguishing agents
- Suitable for use with deluge or closed head air-aspirating foam water sprinkler systems
- Suitable for use with plastic, fiberglass, or mild steel containers
- Recommended for use with air-aspirating foam nozzles

Applications

FireChem Fluoroplus FCFP3UL will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks (non-polar solvent type fuels only)
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Fluoroplus FCFP3UL FP 3% is measured against **Underwriters Laboratories Standard UL 162**.



**Environmentally Friendly
New Foam Chemistry**



Discharge Devices

FireChem Fluoroplus is suitable for use with the following discharge devices:

- Foam Chambers
- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles
- Standard water fog nozzles for handlines and monitors
- Air-aspirating foam nozzles
- Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems
- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Fluoroplus is designed for use with the following types of proportioning equipment:

- Fixed or portable in-line eductors
- In-line balanced pressure and pump pressure proportioning skid
- Bladder tank proportioning systems
- Handline, air-aspirating nozzles with fixed eductor pickup tube
- Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 34000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Fluoroplus FCFP3UL FP 3%

Typical Specification	
Product	Fluoroprotein Foam
Appearance	Dark Brown Liquid
Use Concentration	3%
Specific Gravity	1.15 ± 0.03 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	12 - 22 cst
Suspended sediment (v/v)	< 0.2 %
Freezing Point	-6°C
Pour Point	-5°C
Storage temperature	-5°C - + 50°C
Foam Expansion	Low > 7
Foam Drainage 25%	3 - 5 minutes

Storage And Handling

When stored in the drums supplied the material has a long shelf life. The minimum and maximum usable temperatures for Fluoroplus FCFP3UL concentrate are -5°C and +50°C respectively and shelf life should be 10 years when stored in original containers. As with all protein based materials, shelf life will be dependent on storage or transportation, thawing will render the product completely usable.

FireChem Fluoroplus FCFP3UL may be stored in plastic or SS304 or FRP Containers. For bulk storage, mild steel tanks may be used provided the internal surface is coated with a protective coating such as epoxy. The use of galvanised material should be avoided for storage vessels and pipework involving the concentrate.

Environmental Impact

FireChem Fluoroplus FCFP3UL FP 3% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Fluoroplus FCFP3UL FP3%- JA	20L Jerry can
Fluoroplus FCFP3UL FP3%- JB	25L Jerry can
Fluoroplus FCFP3UL FP3%- D	200L Drum
Fluoroplus FCFP3UL FP3%- IBC	1000L IBC

Note: We reserve the right to modify specifications without prior notice.

FireChem™

(A Group Company of Fire Safety Devices Pvt. Ltd.)



ENVIRONMENTALLY FRIENDLY FOAM

Fluoroplus FCFP6UL FP 6%

FireChem Fluoroplus FCFP6UL is a fluoroportein foam concentrates containing fluorinated surfactants in a carefully formulated protein foam liquid base. This ensures the production of a stabilised fluid foam which will cover a burning hydrocarbon fuel surface very rapidly. The water soluble fluorosurfactant makes the foam hydrocarbon repellent and reduces the amount of burning particles absorbed by the foam in fighting the hydrocarbon fuel fires. Once fire extinction has been achieved the high stability of the foam blanket ensures against the risk of re-ignition and provides excellent protection against 'burn-back' should any inaccessible pockets of fire remains.

FireChem Fluorofoam 3PUL should be used as a 6% proportioned solution in fresh or sea water. It may be also used and stored as 6% pre-mix in fresh / potable water. The correct proportioned or mixture ratio is 3 parts of concentrate and 97 parts of water.

Features

- UL LISTED Foam Liquid Concentrate
- Suitable to combat MTBE & ULG fires
- Suitable for use with either fresh or salt water
- Suitable for use in fixed foam protection systems including sub-surface into hydrocarbon fuels
- Suitable for use with all siliconized dry chemical extinguishing agents
- Suitable for use with deluge or closed head air-aspirating foam water sprinkler systems
- Suitable for use with plastic, fiberglass, or mild steel containers
- Recommended for use with air-aspirating foam nozzles

Applications

FireChem Fluoroplus FCFP6UL will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks (non-polar solvent type fuels only)
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Fluoroplus FCFP6UL FP 6% is measured against **Underwriters Laboratories Standard UL 162**.



**Environmentally Friendly
New Foam Chemistry**



Discharge Devices

FireChem Fluoroplus is suitable for use with the following discharge devices:

- Foam Chambers
- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles
- Standard water fog nozzles for handlines and monitors
- Air-aspirating foam nozzles
- Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems
- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Fluoroplus is designed for use with the following types of proportioning equipment:

- Fixed or portable in-line eductors
- In-line balanced pressure and pump pressure proportioning skid
- Bladder tank proportioning systems
- Handline, air-aspirating nozzles with fixed eductor pickup tube
- Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 34000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Fluoroplus FCFP6UL FP 6%

Typical Specification	
Product	Fluoroprotein Foam
Appearance	Dark Brown Liquid
Use Concentration	6%
Specific Gravity	1.12 ± 0.03 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	8 - 18 cst
Suspended sediment (v/v)	< 0.2 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	-2°C - + 50°C
Foam Expansion	Low > 7
Foam Drainage 25%	3 - 5 minutes

Storage And Handling

When stored in the drums supplied the material has a long shelf life. The minimum and maximum usable temperatures for Fluoroplus FCFP6UL concentrate are -5°C and +50°C respectively and shelf life should be 10 years when stored in original containers. As with all protein based materials, shelf life will be dependent on storage or transportation, thawing will render the product completely usable.

FireChem Fluoroplus FCFP6UL may be stored in plastic or SS304 or FRP Containers. For bulk storage, mild steel tanks may be used provided the internal surface is coated with a protective coating such as epoxy. The use of galvanised material should be avoided for storage vessels and pipework involving the concentrate.

Environmental Impact

FireChem Fluoroplus FCFP6UL FP 6% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Fluoroplus FCFP6UL FP6%- JA	20L Jerry can
Fluoroplus FCFP6UL FP6%- JB	25L Jerry can
Fluoroplus FCFP6UL FP6%- D	200L Drum
Fluoroplus FCFP6UL FP6%- IBC	1000L IBC

Note: We reserve the right to modify specifications without prior notice.

FireChem™

(A Group Company of Fire Safety Devices Pvt. Ltd.)



ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCAR(3X3) AR- AFFF 3%

FireChem Foamplus FCAR(3X3) is an ultra high efficiency multi purpose alcohol resistant film forming foam, 3 X 3 type.

The film forming characteristics of **Foamplus FCAR(3X3)** means that it spreads rapidly across a fire. As a result, it is highly effective against hydrocarbon fires and with the addition of special polymers it is also highly effective against polar solvents. The main advantage of **Foamplus FCAR(3X3)** is that it can be used at 3% concentration for all class B fires.

It is intended for use on hydrocarbon fuels such as gasoline, kerosene, diesel, etc., and on polar solvent / water miscible fuels such as alcohols, ketones, esters, etc. at the same use concentration of 3%.

Features

- UL LISTED Foam Liquid Concentrate
- Suitable for use on hydrocarbon or polar solvent type fuels
- Excellent wetting characteristics when used in combating Class A fuel fires
- Suitable for use with carbon steel, fiberglass, polyethylene or stainless steel. Filmplus AR-AFFF is not compatible with galvanised pipe or fittings in an undiluted form
- Suitable for use with all siliconized dry chemical extinguishing agents
- Recommended minimum application rate on hydrocarbon fuels is 0.10gpm/ft²
- Recommended minimum application rate on polar solvent fuels is 0.17 gpm/ft² (Some Polar type fuel fires may be successfully extinguished with a lower application rate)
- Compatible with other 3%-3% AFFF-AR concentrates of equal quality

Applications

FireChem Foamplus FCAR(3X3) will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks (non-polar solvent type fuels only)
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Foamplus FCAR(3X3) AR-AFFF 3% is measured against **Underwriters Laboratories Standard UL 162**.



Environmentally Friendly
New Foam Chemistry



Discharge Devices

FireChem Foamplus FCAR(3X3) is suitable for use with the following discharge devices:

▪ Foam Chambers

- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles

▪ Standard water fog nozzles for handlines and monitors

- Air-aspirating foam nozzles

▪ Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems

- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Foamplus FCAR(3X3) is designed for use with the following types of proportioning equipment:

▪ Fixed or portable in-line eductors

- In-line balanced pressure and pump pressure proportioning skid

▪ Bladder tank proportioning systems

- Handline, air-aspirating nozzles with fixed eductor pickup tube

▪ Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCAR(3X3) AR-AFFF 3%

Typical Specification	
Product	AR - AFFF 3 X 3
Use Concentration	3%
Specific Gravity	1.02 ± 0.05 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	1750 ± 500 cps
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 7
Foam Drainage 25%	5 minutes minimum

Storage And Handling

FireChem Foamplus FCAR(3X3) may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 20 years or more when stored at recommended temperatures and in original containers.

If the Foamplus FCAR(3X3) is to be stored in an atmospheric type foam concentrate storage tank whether on mobile apparatus or stationary, limit the air space above the surface of the concentrate where possible and place a thin layer of quality mineral oil the surface of the foam concentrate to minimize any effect from evaporation.

Environmental Impact

FireChem Foamplus FCAR(3X3) AFFF 3% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Foamplus FCAR(3X3) AR-AFFF3%- JA	20L Jerry can
Foamplus FCAR(3X3) AR-AFFF3%- JB	25L Jerry can
Foamplus FCAR(3X3) AR-AFFF3%- D	200L Drum
Foamplus FCAR(3X3) AR-AFFF3%- IBC	1 000L IBC

Note: We reserve the right to modify specifications without prior notice.

FireChem™

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ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCAR(3X6) AR- AFFF 3-6%

FireChem Foamplus FCAR(3X6) is an ultra high efficiency multi purpose alcohol resistant film forming foam, 3 X 6 type.

The film forming characteristics of **Foamplus FCAR(3X6)** means that it spreads rapidly across a fire. As a result, it is highly effective against hydrocarbon fires and with the addition of special polymers it is also highly effective against polar solvents. The main advantage of **Foamplus FCAR(3X6)** is that it can be used at 3-6% concentration for all class B fires.

It is intended for use at a proportioning rate of 3-6% on hydrocarbon fuels such as gasoline, kerosene, diesel, etc. On polar solvent / water miscible fuels such as alcohols, ketones, esters, etc., it is intended to use at a concentration of 6 %.

Features

- UL LISTED Foam Liquid Concentrate
- Suitable for use on hydrocarbon or polar solvent type fuels
- Excellent wetting characteristics when used in combating Class A fuel fires
- Suitable for use with carbon steel, fiberglass, polyethylene or stainless steel. Filmplus AR-AFFF is not compatible with galvanised pipe or fittings in an undiluted form
- Suitable for use with all siliconized dry chemical extinguishing agents
- Recommended minimum application rate on hydrocarbon fuels is 0.10gpm/ft²
- Recommended minimum application rate on polar solvent fuels is 0.24 gpm/ft² (Some Polar type fuel fires may be successfully extinguished with a lower application rate)
- Compatible with other 3-6%-6% AFFF-AR concentrates of equal quality

Applications

FireChem Foamplus FCAR(3X6) will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks (non-polar solvent type fuels only)
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Foamplus FCAR(3X6) AR-AFFF 3-6% is measured against **Underwriters Laboratories Standard UL 162**.



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New Foam Chemistry**



Discharge Devices

FireChem Foamplus FCAR(3X6) is suitable for use with the following discharge devices:

- Foam Chambers
- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles
- Standard water fog nozzles for handlines and monitors
- Air-aspirating foam nozzles
- Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems
- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Foamplus FCAR(3X6) is designed for use with the following types of proportioning equipment:

- Fixed or portable in-line eductors
- In-line balanced pressure and pump pressure proportioning skid
- Bladder tank proportioning systems
- Handline, air-aspirating nozzles with fixed eductor pickup tube
- Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Foamplus FCAR(3X6) AR -AFFF 3-6%

Typical Specification	
Product	AR - AFFF 3 X 6
Use Concentration	3 - 6%
Specific Gravity	1.02 ± 0.05 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	1750 ± 500 cps
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 7
Foam Drainage 25% at 3%	5 minutes minimum
Foam Drainage 25% at 6%	15 minutes minimum

Storage And Handling

FireChem Foamplus FCAR(3X6) may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 20 years or more when stored at recommended temperatures and in original containers.

If the Foamplus FCAR(3X6) is to be stored in an atmospheric type foam concentrate storage tank whether on mobile apparatus or stationary, limit the air space above the surface of the concentrate where possible and place a thin layer of quality mineral oil the surface of the foam concentrate to minimize any effect from evaporation.

Environmental Impact

FireChem Foamplus FCAR(3X6) AFFF 3-6% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Foamplus FCAR(3X6) AR-AFFF3-6%- JA	20L Jerry can
Foamplus FCAR(3X6) AR-AFFF3-6%- JB	25L Jerry can
Foamplus FCAR(3X6) AR-AFFF3-6%- D	200L Drum
Foamplus FCAR(3X6) AR-AFFF3-6%- IBC	1000L IBC

Note: We reserve the right to modify specifications without prior notice.

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FOAM CONCENTRATES



ENVIRONMENTALLY FRIENDLY FOAM

Hydrofilm FCAR(1X3) AR- AFFF 1-3%

FireChem Hydrofilm FCAR(1X3) is an ultra high efficiency multi purpose alcohol resistant film forming foam, 1 X 3 type.

The film forming characteristics of **Hydrofilm FCAR(1X3)** means that it spreads rapidly across a fire. As a result, it is highly effective against hydrocarbon fires and with the addition of special polymers it is also highly effective against polar solvents. The main advantage of **Hydrofilm FCAR(1X3)** is that it can be used at 1-3% concentration for all class B fires.

It is intended for use at a proportioning rate of 1% on hydrocarbon fuels such as gasoline, kerosene, diesel, etc. On polar solvent / water miscible fuels such as alcohols, ketones, esters, etc., it is intended to use at a concentration of 3 %.

Features

- Complies to UL 162
- Suitable for use on hydrocarbon or polar solvent type fuels
- Excellent wetting characteristics when used in combating Class A fuel fires
- Suitable for use with carbon steel, fiberglass, polyethylene or stainless steel. Filmplus AR-AFFF is not compatible with galvanised pipe or fittings in an undiluted form
- Suitable for use with all siliconized dry chemical extinguishing agents
- Recommended minimum application rate on hydrocarbon fuels is 0.10gpm/ft²
- Recommended minimum application rate on polar solvent fuels is 0.24 gpm/ft² (Some Polar type fuel fires may be successfully extinguished with a lower application rate)
- Compatible with other AFFF-AR concentrates of equal quality

Applications

FireChem Hydrofilm FCAR(1X3) will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks (non-polar solvent type fuels only)
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Hydrofilm FCAR(1X3) AR-AFFF 1-3% is measured against **Underwriters Laboratories Standard UL 162**.



**Environmentally Friendly
New Foam Chemistry**

Discharge Devices

FireChem Hydrofilm FCAR(1X3) is suitable for use with the following discharge devices:

- Foam Chambers
- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles
- Standard water fog nozzles for handlines and monitors
- Air-aspirating foam nozzles
- Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems
- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Hydrofilm FCAR(1X3) is designed for use with the following types of proportioning equipment:

- Fixed or portable in-line eductors
- In-line balanced pressure and pump pressure proportioning skid
- Bladder tank proportioning systems
- Handline, air-aspirating nozzles with fixed eductor pickup tube
- Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Hydrofilm FCAR(1X3) AR -AFFF 1-3%

Typical Specification	
Product	AR - AFFF 1 X 3
Use Concentration	1 - 3%
Specific Gravity	1.02 ± 0.05 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	2750 ± 500 cps
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-7°C
Pour Point	-5°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 7
Foam Drainage 25% at 1%	8 minutes minimum
Foam Drainage 25% at 3%	17 minutes minimum

Storage And Handling

FireChem Hydrofilm FCAR(1X3) may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 20 years or more when stored at recommended temperatures and in original containers.

If the Hydrofilm FCAR(1X3) is to be stored in an atmospheric type foam concentrate storage tank whether on mobile apparatus or stationary, limit the air space above the surface of the concentrate where possible and place a thin layer of quality mineral oil the surface of the foam concentrate to minimize any effect from evaporation.

Environmental Impact

FireChem Hydrofilm FCAR(1X3) AR-AFFF 1-3% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Hydrofilm FCAR(1X3) AR-AFFF1-3%- JA	20L Jerry can
Hydrofilm FCAR(1X3) AR-AFFF1-3%- JB	25L Jerry can
Hydrofilm FCAR(1X3) AR-AFFF1-3%- D	200L Drum
Hydrofilm FCAR(1X3) AR-AFFF1-3%- IBC	1000L IBC

Note: We reserve the right to modify specifications without prior notice.

FireChem™

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ENVIRONMENTALLY FRIENDLY FOAM

Fluorofilm FCFFP3 FFFP 3%

FireChem Fluorofilm FCFFP3 is a Film Forming Fluoroprotein Foam Concentrate (FFFP 3%) containing hydrolysed protein and preservatives, together with a blend of fluorinated surfactants to achieve the maximum synergistic effect. The blend of fluorochemicals selected is effective in reducing the surface tension of water as well as the interfacial tension between water and oil sufficiently low to give stable film on the surface of the fuel and as result produce fire extinguishing rates superior to those obtained with synthetic based compounds.

Incorporation of protein in the formulation produces a thick visible blanket which has exceptional burnback resistance.

FireChem Fluorofilm FCFFP3 should be used as a 3% proportioned solution in fresh or sea water. It may be also used and stored as 3% pre-mix in fresh/potable water.

Features

- Complies UL 162
- Suitable for use with either fresh or salt water
- Suitable for use with either air-aspirating foam or standard water fog nozzles
- Suitable for use in fixed foam protection systems, including sub-surface injection systems
- Suitable for use with plastic, fiberglass or mild steel containers
- Suitable for use with all siliconized dry chemical extinguishing agents

Applications

FireChem Fluorofilm FCFFP3 will provide quality protection for a wide range of hazardous areas such as:

- Airport Crash Fire Rescue
- Aircraft Hanger Fire Protection Systems
- Military Equipment Bases
- Truck/Rail loading or unloading facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Fluorofilm FCFFP3 FFFP 3% is measured against **UL 162**.



**Environmentally Friendly
New Foam Chemistry**

Discharge Devices

FireChem Fluorofilm is suitable for use with the following discharge devices:

▪ Foam Chambers

- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles

▪ Standard water fog nozzles for handlines and monitors

- Air-aspirating foam nozzles

▪ Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems

- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Fluorofilm is designed for use with the following types of proportioning equipment:

▪ Fixed or portable in-line eductors

- In-line balanced pressure and pump pressure proportioning skid

▪ Bladder tank proportioning systems

- Handline, air-aspirating nozzles with fixed eductor pickup tube

▪ Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Fluorofilm FCFFP3 FFFP 3%

Typical Specification	
Product	FFFP 3%
Use Concentration	3%
Specific Gravity	1.14 ± 0.05 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	<20 cst
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 8
Foam Drainage 25%	3.5 minutes minimum

Storage And Handling

FireChem Fluorofilm FCFFP3 may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 10 years or more when stored at recommended temperatures and in original containers. It does not show significant sedimentation or precipitation in storage or after temperature cycling. Freezing and thawing have no effect on performance and the concentrate proportions satisfactorily in ordinary equipment at temperatures above +2°C.

Synthetic foam concentrates should only be stored in stainless steel (Type 304L or 316), reinforced fiberglass polyester with a vinyl ester resin internal layer coating or plastic containers.

Environmental Impact

FireChem Fluorofilm FCFFP3 FFFP 3% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Fluorofilm FCFFP3 FFFP3%- JA	20L Jerry can
Fluorofilm FCFFP3 FFFP3%- JB	25L Jerry can
Fluorofilm FCFFP3 FFFP3%- D	200L Drum
Fluorofilm FCFFP3 FFFP3%- IBC	1000L IBC

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ENVIRONMENTALLY FRIENDLY FOAM

Fluorofilm FCFFP6 FFFP 6%

FireChem Fluorofilm FCFFP6 is a Film Forming Fluoroprotein Foam Concentrate (FFFP 6%) containing hydrolysed protein and preservatives, together with a blend of fluorinated surfactants to achieve the maximum synergistic effect. The blend of fluorochemicals selected is effective in reducing the surface tension of water as well as the interfacial tension between water and oil sufficiently low to give stable film on the surface of the fuel and as result produce fire extinguishing rates superior to those obtained with synthetic based compounds.

Incorporation of protein in the formulation produces a thick visible blanket which has exceptional burnback resistance.

FireChem Fluorofilm FCFFP6 should be used as a 6% proportioned solution in fresh or sea water. It may be also used and stored as 6% pre-mix in fresh/potable water.

Features

- Complies UL 162
- Suitable for use with either fresh or salt water
- Suitable for use with either air-aspirating foam or standard water fog nozzles
- Suitable for use in fixed foam protection systems, including sub-surface injection systems
- Suitable for use with plastic, fiberglass or mild steel containers
- Suitable for use with all siliconized dry chemical extinguishing agents

Applications

FireChem Fluorofilm FCFFP6 will provide quality protection for a wide range of hazardous areas such as:

- Airport Crash Fire Rescue
- Aircraft Hanger Fire Protection Systems
- Military Equipment Bases
- Truck/Rail loading or unloading facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Fluorofilm FCFFP6 FFFP 6% is measured against **UL 162**.



Environmentally Friendly
New Foam Chemistry

Discharge Devices

FireChem Fluorofilm is suitable for use with the following discharge devices:

▪ Foam Chambers

- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles

▪ Standard water fog nozzles for handlines and monitors

- Air-aspirating foam nozzles

▪ Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems

- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Fluorofilm is designed for use with the following types of proportioning equipment:

▪ Fixed or portable in-line eductors

- In-line balanced pressure and pump pressure proportioning skid

▪ Bladder tank proportioning systems

- Handline, air-aspirating nozzles with fixed eductor pickup tube

▪ Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Fluorofilm FCFFP6 FFFP 6%

Typical Specification	
Product	FFFP 6%
Use Concentration	6%
Specific Gravity	1.14 ± 0.05 g / ml0
pH	8.0 ± 0.5
Viscosity @ 20°C	<10 cst
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 8
Foam Drainage 25%	3.5 minutes minimum

Storage And Handling

FireChem Fluorofilm FCFFP6 may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 10 years or more when stored at recommended temperatures and in original containers. It does not show significant sedimentation or precipitation in storage or after temperature cycling. Freezing and thawing have no effect on performance and the concentrate proportions satisfactorily in ordinary equipment at temperatures above +2°C.

Synthetic foam concentrates should only be stored in stainless steel (Type 304L or 316), reinforced fiberglass polyester with a vinyl ester resin internal layer coating or plastic containers.

Environmental Impact

FireChem Fluorofilm FCFFP6 FFFP 6% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Fluorofilm FCFFP6 FFFP6%- JA	20L Jerry can
Fluorofilm FCFFP6 FFFP6%- JB	25L Jerry can
Fluorofilm FCFFP6 FFFP6%- D	200L Drum
Fluorofilm FCFFP6 FFFP6%- IBC	1000L IBC

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ENVIRONMENTALLY FRIENDLY FOAM

Fluorofilm FCFPAR(3X3) AR- FP 3%

FireChem Fluorofilm AR-FP (3X3) is Protein based, which gives good sealing and excellent burn back resistance when used as a fire-extinguishing agent. **FireChem Fluorofilm AR-FP (3X3)** is formulated with hydrolysed protein, fluoro chemicals, metal salts, special stabilizers and preservatives to give the best performance and satisfactory storage.

FireChem Fluorofilm AR-FP (3X3) is suitable for fighting fires both of hydrocarbon fires and polar solvent fires. Unique properties are great foam stability, exceptional burnback resistance and high sealing power.

FireChem Fluorofilm AR-FP (3X3) should be used as a 3% proportioned solution in fresh or sea water. It may be also used and stored as 3% pre-mix in fresh/portable water. The advantage of Protein Foam as well as that of alcohol resistant foam helps the fire fighter to fight any type of fire.

Features

- Complies to UK DEF 42/40 Issue 1, ICAO DOC9137-AN898 Part 1
- Suitable for use on hydrocarbon or polar solvent type fuels
- Excellent wetting characteristics when used in combating Class A fuel fires
- Suitable for use with carbon steel, fiberglass, polyethylene or stainless steel. FireChem AR-FP is not compatible with galvanised pipe or fittings in an undiluted form
- Suitable for use with all siliconized dry chemical extinguishing agents
- Compatible with other AFFF-AR concentrates of equal quality
- Good Sealing Effect on hot metal surfaces

Applications

FireChem Fluorofilm FCFPAR(3X3) will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Fluorofilm FCFPAR(3X3) AR-FP 3% is measured against UK DEF 42/40 Issue 1



**Environmentally Friendly
New Foam Chemistry**

Discharge Devices

FireChem Fluorofilm FCFPAR(3X3) is suitable for use with the following discharge devices:

- Foam Chambers
- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles
- Standard water fog nozzles for handlines and monitors
- Air-aspirating foam nozzles
- Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems
- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Fluorofilm FCFPAR(3X3) is designed for use with the following types of proportioning equipment:

- Fixed or portable in-line eductors
- In-line balanced pressure and pump pressure proportioning skid
- Bladder tank proportioning systems
- Handline, air-aspirating nozzles with fixed eductor pickup tube
- Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Fluorofilm FCFPAR(3X3) AR- FP 3%

Typical Specification	
Product	AR - FP
Use Concentration	3%
Specific Gravity	1.12 ± 0.05 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	1500 ± 500 cps
Suspended sediment (v/v)	< 0.5 %
Freezing Point	-20°C
Pour Point	-18°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 7
Foam Drainage 25%	4 minutes minimum

Storage And Handling

FireChem Fluorofilm FCFPAR(3X3) may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 20 years or more when stored at recommended temperatures and in original containers.

If the Fluorofilm FCFPAR(3X3) is to be stored in an atmospheric type foam concentrate storage tank whether on mobile apparatus or stationary, limit the air space above the surface of the concentrate where possible and place a thin layer of quality mineral oil the surface of the foam concentrate to minimize any effect from evaporation.

Environmental Impact

FireChem Fluorofilm FCFPAR(3X3) AR-FP 3% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Fluorofilm FCFPAR(3X3) AR-FP 3-3%- JA	20L Jerry can
Fluorofilm FCFPAR(3X3) AR-FP 3-3%- JB	25L Jerry can
Fluorofilm FCFPAR(3X3) AR-FP 3-3%- D	200L Drum
Fluorofilm FCFPAR(3X3) AR-FP 3-3%- IBC	1000L IBC

Note: We reserve the right to modify specifications without prior notice.

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ENVIRONMENTALLY FRIENDLY FOAM

Fluorofilm FCFPAR(3X6) AR- FP 6%

FireChem Fluorofilm AR-FP (3X6) is Protein based, which gives good sealing and excellent burn back resistance when used as a fire-extinguishing agent. **FireChem Fluorofilm AR-FP (3X6)** is formulated with hydrolysed protein, fluoro chemicals, metal salts, special stabilizers and preservatives to give the best performance and satisfactory storage.

FireChem Fluorofilm AR-FP (3X6) is suitable for fighting fires both of hydrocarbon fires and polar solvent fires. Unique properties are great foam stability, exceptional burnback resistance and high sealing power.

FireChem Fluorofilm AR-FP (3X6) should be used as a 6% proportioned solution in fresh or sea water. It may be also used and stored as 6% pre-mix in fresh/portable water. The advantage of Protein Foam as well as that of alcohol resistant foam helps the fire fighter to fight any type of fire.

Features

- Complies to UK DEF 42/40 Issue 1, ICAO DOC9137-AN898 Part 1
- Suitable for use on hydrocarbon or polar solvent type fuels
- Excellent wetting characteristics when used in combating Class A fuel fires
- Suitable for use with carbon steel, fiberglass, polyethylene or stainless steel. FireChem AR-FP is not compatible with galvanised pipe or fittings in an undiluted form
- Suitable for use with all siliconized dry chemical extinguishing agents
- Compatible with other AFFF-AR concentrates of equal quality
- Good Sealing Effect on hot metal surfaces

Applications

FireChem Fluorofilm FCFPAR(3X6) will provide quality protection for a wide range of hazardous areas such as:

- Crash Fire Rescue
- Defense Facilities
- Storage tanks
- Truck/Rail loading or unloading facilities
- Processing/Storage facilities
- Docks/Marine tankers
- Flammable liquid containment areas
- Mobile equipment

Performance

The fire performance of Fluorofilm FCFPAR(3X6) AR-FP 6% is measured against UK DEF 42/40 Issue 1



**Environmentally Friendly
New Foam Chemistry**

Discharge Devices

FireChem Fluorofilm FCFPAR(3X6) is suitable for use with the following discharge devices:

- Foam Chambers
- Air-aspirating and non air-aspirating sprinkler heads or spray nozzles
- Standard water fog nozzles for handlines and monitors
- Air-aspirating foam nozzles
- Foam Makers for use with either Floating Roof Storage tanks or Dike/Bund protection systems
- High back pressure foam makers for subsurface base injection system (hydrocarbon type fuels only)

Proportioning

FireChem Fluorofilm FCFPAR(3X6) is designed for use with the following types of proportioning equipment:

- Fixed or portable in-line eductors
- In-line balanced pressure and pump pressure proportioning skid
- Bladder tank proportioning systems
- Handline, air-aspirating nozzles with fixed eductor pickup tube
- Around the pump proportioners

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

UL (USA) Quality Standard UL 162:

- Foam Quality Tests
- Class B Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

Fluorofilm FCFPAR(3X6) AR- FP 6%

Typical Specification	
Product	AR - FP
Use Concentration	6%
Specific Gravity	1.10 ± 0.05 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	1500 ± 500 cps
Suspended sediment (v/v)	< 0.5 %
Freezing Point	-20°C
Pour Point	-18°C
Storage temperature	+2°C- + 50°C
Foam Expansion	Low > 7
Foam Drainage 25%	4 minutes minimum

Storage And Handling

FireChem Fluorofilm FCFPAR(3X6) may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 20 years or more when stored at recommended temperatures and in original containers.

If the Fluorofilm FCFPAR(3X6) is to be stored in an atmospheric type foam concentrate storage tank whether on mobile apparatus or stationary, limit the air space above the surface of the concentrate where possible and place a thin layer of quality mineral oil the surface of the foam concentrate to minimize any effect from evaporation.

Environmental Impact

FireChem Fluorofilm FCFPAR(3X6) AR-FP 6% is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Fluorofilm FCFPAR(3X6) AR-FP 3-6%- JA	20L Jerry can
Fluorofilm FCFPAR(3X6) AR-FP 3-6%- JB	25L Jerry can
Fluorofilm FCFPAR(3X6) AR-FP 3-6%- D	200L Drum
Fluorofilm FCFPAR(3X6) AR-FP 3-6%- IBC	1000L IBC

Note: We reserve the right to modify specifications without prior notice.

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ENVIRONMENTALLY FRIENDLY FOAM

HIEX FCHF – High Expansion Foam

FireChem HIEX FCHF is a blend of high activity, synthetic, fatty alcohol sulphates, solvents and stabilisers.

FireChem HIEX FCHF mixed with water and converted into finished foam via medium or high expansion foam making equipment combats fires by engulfing the area, restricting the supply of oxygen and creating an inert atmosphere. The water content of the foam, particularly the medium expansion, provides a cooling effect.

FireChem HIEX FCHF should be used between 1% and 3% concentration in fresh or sea water if medium or high expansion foams are required depending on the equipment used.

Features

- Complies BS EN 1568-2
- Excellent wetting characteristics when used in combating HIEX FCHF fuel type fires
- If advertently frozen, thawing will render the product completely serviceable again
- Suitable for fighting LNG Fires
- Can be used with fresh or salt water
- Suitable for use with high and medium expansion foam generators

Foaming Properties

The foaming property of High Expansion foam is dependent on many different factors. Which include:

- Type of discharge device
- System operating pressure
- Amount of foam concentrate in the water



**Environmentally Friendly
New Foam Chemistry**

Discharge Devices

- High Expansion Generators
- Handline, air-aspirating nozzle 0.5% to 1%
- Medium Expansion Generators
- Medium Expansion Bund Pourers

Applications

- LNG Facilities
- Warehouses
- Engine Rooms
- On board ships

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

- Foam Quality Tests
- High Expansion Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

HIEX FCHF – High Expansion Foam

Typical Specification	
Product	High Expansion Foam
Use Concentration	1% - 3%
Specific Gravity	1.01 ± 0.03 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	<10 cst
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	0°C- + 50°C

Storage And Handling

FireChem HIEX FCHF Foam may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 10 years or more when stored at recommended temperatures and in original containers. It does not show significant sedimentation or precipitation in storage or after temperature cycling. Freezing and thawing have no effect on performance and the concentrate proportions satisfactorily in ordinary equipment at temperatures above 0°C.

Synthetic foam concentrates should only be stored in stainless steel (Type 304L or 316), reinforced fiberglass polyester with a vinyl ester resin internal layer coating or plastic containers.

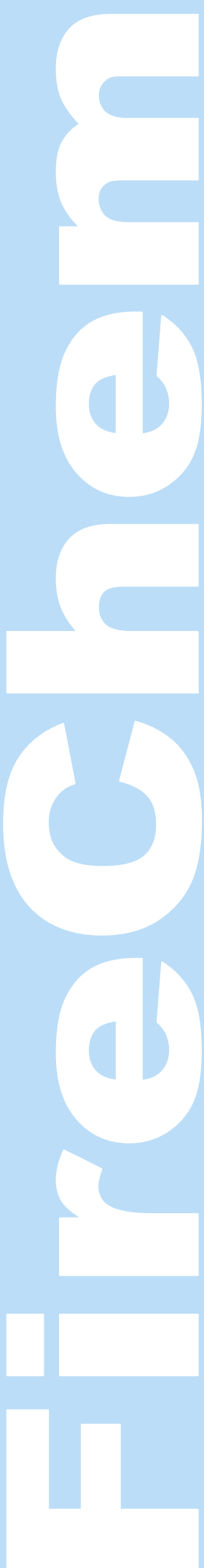
Environmental Impact

FireChem HIEX FCHF Foam is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
FireChem HIEX FCHF FC- JA	20L Jerry can
FireChem HIEX FCHF FC- JB	25L Jerry can
FireChem HIEX FCHF FC- D	200L Drum
FireChem HIEX FCHF FC- IBC	1000L IBC

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ENVIRONMENTALLY FRIENDLY FOAM

CLASS A Foam

FireChem Class A Foam is a non-corrosive, non-toxic, biodegradable Class A fire fighting foam concentrate. When mixed with water in the correct proportion, it changes the properties of water. It reduces the surface tension of the water, and produces foam which allows the water to cling to vertical or horizontal surfaces without run off. This allows the water to absorb more heat and provides greater penetration into Class A fuels.

Features

- Water treated with Class A foam concentrate is 3 to 5 times more effective on Class A fires than untreated water
- Water treated with Class A foam will wet Class A fuels up to 20 times more efficiently than untreated water
- Can be used with either fresh or salt water
- Can be used with non-air-aspirating or aspirating handline nozzles
- Suitable for use with helicopter Bambi bucket
- Suitable for use with Compressed Air Foam Systems (CAFS)
- Suitable for use on rubber (tires), coal, paper and many other types of Class A fuels
- Suitable for use through medium expansion nozzles on Class A or contained Class B flammable liquids

Foaming Properties

The foaming property of Class A foam is dependent on many different factors. Which include:

- Type of discharge device
- System operating pressure
- Amount of foam concentrate in the water



**Environmentally Friendly
New Foam Chemistry**

Recommended Applications

- Helicopter Bambi Bucket 0.5% to 1%
- Handline, air-aspirating nozzle 0.5% to 1%
- Handline, non-air-aspirating nozzle 2% to 3%
- Compressed air foam system (CAFS) 2% to 3%

Reference Standards

- NFPA 11
- NFPA 18
- NFPA 1145 (Structural Attack)
- NFPA 1151 / 298

Approvals

Quality Management System approved to
ISO 9000 : 2000
ISO 14000 : Environmental Management

- Foam Quality Tests
- Class A Fire Test
- Foam Identification Tests
- Tests of Shipping Containers



ENVIRONMENTALLY FRIENDLY FOAM

CLASS A Foam

Typical Specification	
Product	Synthetic Class A
Use Concentration	0.5% - 3%
Specific Gravity	1.01 ± 0.03 g / ml
pH	8.0 ± 0.5
Viscosity @ 20°C	<10 cst
Suspended sediment (v/v)	< 0.1 %
Freezing Point	-2°C
Pour Point	-1°C
Storage temperature	0°C- + 50°C

Storage And Handling

FireChem Class A Foam may be stored in its shipping container without change in its original physical or chemical characteristics. Shelf life is expected to be 10 years or more when stored at recommended temperatures and in original containers. It does not show significant sedimentation or precipitation in storage or after temperature cycling. Freezing and thawing have no effect on performance and the concentrate proportions satisfactorily in ordinary equipment at temperatures above 0°C.

Synthetic foam concentrates should only be stored in stainless steel (Type 304L or 316), reinforced fiberglass polyester with a vinyl ester resin internal layer coating or plastic containers.

Environmental Impact

FireChem Class A Foam is biodegradable, low in toxicity and can be treated in sewage treatment plants.

Ordering Information	
Class A FC- JA	20L Jerry can
Class A FC- JB	25L Jerry can
Class A FC- D	200L Drum
Class A FC- IBC	1000L IBC

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Firechem

FOAM TESTING SERVICE



AFFF



AFFF-AR



FFFP



FFFP-AR



FP



CLASS A



HIGH
FOAM



HAZMAT

FOAM TESTING SERVICE

CAPABILITY

FireChem specialises in the manufacturing, supplying, installation and testing of all Fire Fighting Equipment and Fire Fighting Foam Concentrates. Our state of art foam testing laboratory is certified to ISO 9001 : 2008 and also approved by UL, USA. We have highly competent staff who have more than 10 years experience in the foam quality testing.

LATEST ANALYTICAL & FIRE TESTING

EQUIPMENT

FireChem's foam laboratory is equipped with modern analytical equipment like Abbe Refractometer, Brookfield Viscometer, Digital pH meter, Digital Conductivity meter, Digital Tensiometer, High Precision Electronic Balances and Fire testing equipment. A team of highly qualified scientists and technicians analyse the foam samples in the modern, purpose-built laboratory as per standards like UL 162, NFPA 11, ISO 7203, EN 1568, MILSPEC, UK DEF 42-20 etc.

OUR SERVICE

On completion of the quality tests, a quality report in plain English would be provided either by email or fax.

Good quality foam exhibits excellent shelf life. Even though, most AFFF manufacturers offer at least 10 years shelf life for products stored in original and unopened containers.

However, a foam's performance would be affected due to the following reasons:

- Dilution
- Temperature Cycling
- Cross contamination

Due to the above reasons NFPA 11, BS5306 etc. recommends to TEST FOAM CONCENTRATE & PRODUCED FOAMS ATLEAST ON ANNUAL BASIS.

FOAM TESTING SAMPLES

A one liter sample of the foam concentrate should be taken in a clean HDPE container. Care should be taken to properly wash even new containers. Never use containers which have been used previously for detergent or oil materials.

FOAM QUALITY REPORT

The foam quality report will contain the following parameters evaluated.

- Appearance
- Specific Gravity
- pH
- Freezing Point
- Expansion Ratio
- 25% Drainage Time
- Viscosity
- Fire Extinguishment Properties
- Burn-back Resistance



AFFF



AFFF-AR



FFFP



FFFP-AR



FP



CLASS A



HIGH
FOAM



HAZMAT