PRODUCT SHEET

IFP UNILIGHT AGFFF TYPE 3/3^{C6}

AR AFFF (SELF-HEALING)

Alcohol Resistant Aqueous Film Forming Foam Concentrate

DESCRIPTION

IFP UNILIGHT AGFFF TYPE 3/3^{C6}, AR-AFFF 3/3, (SELF-HEALING), commonly known as Alcohol Resistant Aqueous Film Forming Foam Concentrate, is specially formulated non-toxic, viscous foam liquid concentrate, for use in hydrocarbon as well as polar solvent fires. The foam concentrate contains special type of fluorochemical surfactant (C6 technology), hydrocarbon surfactant, solvent, stabilizer, biocide and polysaccharides. It produces aqueous film on hydrocarbon fuel to prevent the fuels vapors come in contact with air and forms a cohesive and regenerative polymeric barrier floats over the alcohol preventing the foam bubble for mixing with polar solvents. IFP UNILIGHT AGFFF TYPE 3/3^{C6} do not contains any PFOS or PFOA.

PROPERTIES AT 25 C

Appearance	Light orange viscous liquid
pH	7.0 - 8.0
Specific Gravity	1.00 to 1.03 gm/ml
Viscosity	Non-newtonian
Spreading Co-efficient	More than 3.5
Sludge Contents (%V/V)	Nil
Pour Point	(-)2°C

APPLICATIONS

IFP UNILIGHT AGFFF TYPE 3/3^{C6} is intended for use on Class B hydrocarbon fuels such as gasoline, kerosene, diesel etc. and polar fuels such as alcohols, aldehydes, ketones, ethers, esters etc. at a proportioning rate of 3% with fresh water and salt water. It is applicable with low and medium expansion discharge devices for covering and extinguishing fires of Class A and Class B. IFP UNILIGHT AGFFF TYPE 3/3^{C6} is suitable for use in special appliances like storage tanks, process areas, warehouses, loading areas, docs and other local risks involving a spilled fuel fire. It is a multipurpose foam and therefore it gives maximum protection against hazards in the fuel storage area irrespective of the type of the fuel.

Minimum Application Rates listed in UL Directory using 50 ft^2 Fire Test on hydrocarbon and polar solvent fuels are listed below.

Fuel	Gpm/ft^2 (LPM/m^2)
Polar Solvents (U.L. Type II Application)*	
Methanol	0.10 (4.1)
Isopropyl Alcohol	0.13 (5.3)
Methyl Ethyl Ketone	0.15 (6.1)
Acetone	0.16 (6.6)
Hydrocarbons (U.L. Type III Application)**	
Heptane	0.10 (4.1)

* TYPE II APPLICATION - Discharge devices that delivers foam gently onto the burning liquid but with minimized submergence and restricted agitation of the surface as described in UL 162.

** TYPE III APPLICATION - Discharge devices that delivers the foam directly onto the liquid surface as described in UL 162.

PROPORTIONING

IFP UNILIGHT AGFFF TYPE 3/3^{C6} can easily be proportioned using conventional equipments

- Fixed and Portable In-line Inductors
- Balanced Pressure and In-line balanced pressure proportioning systems.
- Bladder tank proportioner.
- Around the pump inductor.
- Handline nozzles with fixed induction/ pick-up tubes.

DISCHARGE DEVICES

- Air aspirating discharge devices such as low expansion branchpipes, top pourer sets, rimseal foam pourers.
- Air aspirating and non air aspirating sprinkler heads and spray nozzles.
- Foam makers for use with Floating Roof Storage Tanks/Bund protection system.
- Non-aspirating discharge devices such as spray/fog branchpipes and nozzles, monitors. However, non-aspirated application is not recommended as the primary method of attack for major fires involved with polar fuels where a stable foam cover is essential.

STORAGE/SHELF LIFE

Shelf-life of IFP UNILIGHT AGFFF TYPE 3/3^{C6} is 10-15 years while proper storage conditions are maintained. When stored in the supplied packing and stored within the temperature range of 1.7°C - 49°C (35°F - 120°F) a shelf life of 20-25 years is expected. Freezing and thawing will have no impact on the performance. For bulk storing materials like SS-304, SS-316, Isophthalic Polyester Resin, Epoxy Resin, High Density Polythylene are recommended. Galvanized pipe and fittings must not be used in areas where undiluted concentrate will contact them since corrosion will result.

COMPATIBILITY

IFP UNILIGHT AGFFF TYPE 3/3^{C6} is compatible with soft, hard, brackish or salt water. It can be used in combination with Dry powder extinguishing agents either separately or as twin agent systems.

IFP UNILIGHT AGFFF TYPE 3/3^{C6} shall not be mixed with other manufacturers foam concentrate except for use in emergency situations.

ENVIRONMENTAL AND TOXICOLOGICAL INFORMATION

IFP UNILIGHT AGFFF TYPE 3/3^{C6} is biodegradable, low toxicity and does not contain PFOS. However, as with any substance, care should be taken to prevent discharge from entering ground water, surface water, or storm drains. It can be treated in sewage treatment systems. Since facilities vary widely by location, disposal or discharge of IFP UNILIGHT AGFFF TYPE 3/3^{C6} concentrate or foam solution should be made in accordance with local government rules and regulations.

For further details see IFP UNILIGHT AGFFF TYPE 3/3^{C6} Material Safety Data Sheet.

APPROVALS AND LISTING

- Underwriter's Laboratories Inc., UL Listed, as per UL 162
- Bureau of Indian Standard, BIS Marked, as per IS 4989 :2018
- EN approved, as per EN 1568-3&4
- Type approved Lloyd's Register, UK, as per IMO MSC.1/Circ. 1312

OTHER STANDARDS

- FM 5130
- ISO 7203 - 1 & 3

ORDERING INFORMATION

Part Number	Description	Volume, m^3 (ft^3)	Weight (kg)
102020-01	Pails/Cans 20L (5.28 Gallon)	0.028 (0.99)	21.4
102020-02	Pails/Cans 30L (7.93 Gallon)	0.040 (1.40)	32.1
102020-03	Barrels 200L (52.84 Gallon)	0.318 (11.23)	211.2
102020-04	IBC Tote 1000L (264.2 Gallon)	1.386 (49.09)	1067

Contacts in Emergency : +919903914042

Integrated Fire Protection Pvt. Ltd.
60A,Pandit Madan Mohan Malabya Sarani, Kolkata - 700 020, INDIA
Phone : (91) (33) 2454-1061, 2475-5634, Fax : (91) (33) 2476-1107
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MATERIAL SAFETY DATA SHEET (MSDS)

IFP-INDIA

IFP UNILIGHT AR-AFFF TYPE 3/3^{C6}
(SELF-HEALING)

ALCOHOL RESISTANT AQUEOUS FILM FORMING FOAM LIQUID CONCENTRATE

Section 1. PRODUCT & COMPANY IDENTIFICATION:

Trade Name	*IFP UNILIGHT AR-AFFF TYPE 3/3^{C6} (SELF-HEALING)*
Chemical Classification	*N/A*
CAS Number	*Mixture*
Hazchem Number	*N/A*
Product Description	*Mixture of Hydrocarbon surfactant, Fluorosurfactant, polysaccharides and solvents*
Application & Use	*Fire Extinguishing Foam Concentrate*

INTEGRATED FIRE PROTECTION PVT. LTD.
60A, Pandit Madan Mohan Malabya Sarani, Kolkata-700 020, India.
Phone: (91)(33)2475 5634, 2454 1061
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Section 2. INGREDIENT - COMPOSITION INFORMATION:

MAJOR INGREDIENTS	CAS.No.	CONC. (% wt)	HEALTH CLASS
1. Fluorinated Surfactant (C_6)	Proprietary	1-5	Xi R 36, 37, 38
2. Solvent	34590-94-8	10-20	Xi R 36
3. Proprietary mixture Hydrocarbon Surfactant	Propietary	10-16	Xi R 36, 37, 38
5. Biogum	11138-66-2	0.5-1	
6. Stabiliser	102-71-6	0.5-1	
7. Water	7732-18-5	60-75	

Section 3. HAZARD IDENTIFICATION:

Flammability		Combustible Liquid	*No*
LEL %v	*N/A*	Corrosive Material	*None*
UEL %v	*N/A*	Organic Peroxide	*No*
TDG Flammability	*N/A*	Auto ignition Temperature ^{o}C	*N/A*
Explosion Sensitivity to impact	*None*	Hazardous Polymerization	*Will not occur*
Flammable Material	*No*	Explosive Material	*No*
Oxidizer	*No*	Pyrophoric Material	*No*
Flash Point	*No flash*	Others	*N/A*
Explosion Sensitivity to Static Electricity	*None*		

Hazardous Combustion Products: Not known. However oxides of carbon, nitrogen and sulfur may be formed during use for extinction of fire.

NFPA Hazard Signals	Health	Flammability	Stability	Special
	1	0	0	N/A

EMERGENCY OVERVIEW:

FIRE	
Fire Extinguishing Media	Material is itself a fire extinguishing agent
Special Procedures	None
Unusual Hazard	None
EXPOSURE	
User guidelines	Avoid getting chemicals on you or in you. May cause mild eye-irritation and skin irritation. Swallowing large amount of chemicals may cause injury or irritation.
SPILLS	
Steps to be taken	Stop leak. Collect spilled concentrates. Rinse the affected area with plenty of water until it no longer foams. Care should be taken to avoid slip hazard.

Section 4. FIRST AID MEASURES:

Skin	Remove contaminated clothing. Wash skin with ample water several times.
Eye	Flush eyes with flowing water for at least for 15 minutes. Contact doctor if irritation persists.
Ingestion	If ingested, have victim drink water and obtain medical attention immediately.
Inhalation	If patient is conscious, it is anticipated to be a minor problem. If there is breathing difficulty or cough, keep patient at rest, seated in maximum comfortable position. Call for medical attention if symptoms do not go away quickly or patient is unconscious.

Section 5. FIRE FIGHTING MEASURES:

Fire fighting measures are not applicable as the material itself is a fire extinguishing agent.

Section 6. ACCIDENTAL RELEASE MEASURES:

Stop leak. Use appropriate protective equipment during cleanup. Collect spilled concentrates. Rinse the affected area with plenty of water until it no longer foams. Care should be taken to avoid slip hazard. Disposal should be made in accordance with federal, state and local regulations.

Section 7. HANDLING & STORAGE:

Handling: Avoid getting chemicals on you or in you. Wash hands after handling chemicals. Don't eat or drink while handling chemicals.

Storage: No Special conditions are required for safe storage. Store the product in original container. As much as possible, keep material from being washed into surface water.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION:

Avoid getting chemicals on you or in you. Use tightly sealed safety glass or goggles for eye protection, use PVC/Nitrile or butyl rubber gloves, apron and rubber boots for skin protection.

Section 9. PHYSICAL & CHEMICAL PROPERTIES:

Physical State	Viscous Liquid
Odour	Characteristic
Appearance	Light Amber
pH at 27±5°C	7.0-8.0
Boiling point/Range	100°C (Initial)
Freezing point	Below (-)2°C
Vapour Density (Air=1)	Data not available
Specific gravity (Water=1)	1.00-1.04 at 27±5°C
Vapour Pressure @35°C,mm Hg	Data not available
Solubility in water	100% Soluble
Flammability	Not flammable

Section 10. STABILITY & REACTIVITY:

Chemical Stability	Stable
Incompatibility with other material	Avoid use of product on burning metals, electrically energized equipment and contact with water reactive material
Reactivity	None
Hazardous Reaction Products	Not known

Section 11. TOXICOLOGICAL INFORMATION

Effects of exposure/Symptoms	May cause mild eye-irritation and skin irritation. Swallowing large amount of chemicals may cause injury or irritation.
Permissible Exposure Limit, LD_{50}	> 4 gm/Kg body wt. of rat (oral)

Section 12. ECOLOGICAL INFORMATION;

This product is an ecologically inert material. It does not contain ozone depleting substances and is not expected to exert an eco-toxic effect or bio-accumulated in the food chain.

Section 13. DISPOSAL CONSIDERATION:

Prevent discharge foam/foam solution to waterways without treatment. Waste disposal should be made in accordance with central, state and local regulations. Waste may be incinerated or disposed of by treatment at a permitted facility only with permission or as advised by competitive authority.

Section 14. TRANSPORT INFORMATION

Not classified as Dangerous or Hazardous for transport under UN,IMO,ADR/RID and IATA/ICAO

Section 15. REGULATORY INFORMATION

Label for supply	None required
UK regulatory references	Health and Safety at work Act 1974 Chemical (Hazard Information & Packaging for Supply) Regulation 1994/Amendment Regulations 1996
EC Directives	Substances Directive 67/548/EEC as amended by 69/81/EEC, 70/189/EEC, 73/146/EEC, 75/409/EEC, 79/831/EEC General Preparations Directive 88379/EEC
Statutory Instruments	Chemical (Hazard Information & Packaging for Supply) Regulation 1994 /Amendment Regulations 1996.
Approved Code of Practice	Classification and Labelling of Substances and Preparations Dangerous for Supply
Guidance Notes	Occupational Exposure Limits EH40/96
Transportation of Dangerous Goods (TDG) information	Not required as per ADR/RID/IMGD,IATA & 49 CFR

Section 16. OTHER INFORMATION

KEY

CAS	:	Chemical Abstracts Service
DOT	:	Department of Transportation
NFPA	:	National Fire Protection Association
TDG	:	Transportation of dangerous goods.
UEL	:	Upper exposure limit
LEL	:	Lower exposure limit.
IATA	:	International Air Transport Association