SAFETY DATA SHEET (SDS)

IFP UNILIGHT GREEN AR-SFFF 3x3

FLUORINE FREE SYNTHETIC FOAM LIQUID CONCENTRATE (ALCOHOL RESISTANT)

[Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200, the Canadian Hazardous Products Regulations (HPR) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)]

1. IDENTIFICATION

Product Name	IFP UNILIGHT GREEN AR-SFFF 3x3 Fluorine Free Foam Liquid Concentrate
Recommended use of the chemical and restrictions on use	
Identified use	Fire Extinguishing Foam Concentrate
Restrictions on use	See Section 15
Company Identification	Integrated Fire Protection Pvt. Ltd. 60A, Pandit Madan Mohan Malabya Sarani, Kolkata-700 020, India. Phone: +91 33 2475 5634, 2454 1061 Fax: +91 33 2476 1107 **E-mail:** info@integratedfire.net **Website :** www.integratedfire.net
Customer Information Number	+91 33 2454 1061
Emergency Phone Number	+919903914042

2. HAZARD IDENTIFICATION

Hazard Classification	Eye Damage/Irritation – Category 2A Skin Corrosion/Irritation - Category 2
Label Elements	Hazard Symbols



Signal Word: Warning

Hazard Statements	Causes eye irritation.
Precautionary Statements	Wash hands thoroughly after handling.
Prevention	Wear eye protection and face protection.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Storage	None
Disposal	None
Other Hazards	None

3. COMPOSITION/ INFORMATION ON INGREDIENTS

MAJOR INGREDIENTS	CAS.No.	CONC. (% wt)	HEALTH CLASS
1. 2-(2-Butoxyethoxy)ethanol	112-34-5	5-10	Xi R 36
2. Sodium Octyl Sulfate	142-31-4	5-10	Xi R 36, 37, 38
3. Sodium Decyl Sulphate	142-87-0	5-10	Xi R 36, 37, 38
4. Capryl Caprylyl Glucoside	68515-73-1	5-10	Xi R 36, 37, 38
5. Water	7732-18-5	Balance	

4. FIRST AID MEASURES

Description of necessary 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.

Most important symptoms/effects, acute and delayed

Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

Notes to Physicians

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

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

Specific hazards arising from the chemical

None known

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use appropriate protective clothing. Prevent skin and eye contact.
Environmental Precautions	Prevent foam concentrate or foam solution from entering ground water, surface water, or storm water. Discharge and disposal of concentrate or foam solution should be made in accordance with federal, state, and local regulations.
Methods and materials for containment and cleaning up	Contain and absorb using appropriate inert material and transfer into suitable containers for recovery or disposal. Care should be taken to avoid slip hazard.

7. HANDLING & STORAGE

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

Conditions for safe storage: Maximum storage temperature should be 120°F (49°C). Store the product in original container. Storage area should be cool, dry, well-ventilated, under shade and out of direct sunlight. As much as possible, keep material from being washed into surface water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

2-(2-Butoxyethoxy)ethanol, CAS-112-34-5
ACGIH TLV: TWA: 10 ppm inhalable fraction and vapor.

Appropriate engineering controls
Use with adequate ventilation. If this product is used in a pressurized system, there should be local procedures for the selection, training, inspection and maintenance of this equipment. When used in large volumes, use local exhaust ventilation.

Individual protection measures

Respiratory Protection	Wear respiratory protection if there is a risk of exposure to high vapor concentrations, aerosols or if applied to hot surfaces. A NIOSH approved full face respirator may be worn. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.
Skin Protection	Gloves
Eye/Face Protection	Chemical goggles or safety glasses with side shields.
Body Protection	Normal work wear.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance/ Physical State	Viscous Liquid
Color	Green
Odor	Characteristic
Odor Threshold	No data available
pH	7.0 – 8.0
Specific Gravity	1.01 – 1.04
Boiling Range/Point (°C/F)	No data available
Melting Point (°C/F)	No data available
Flash Point (°C/F)	>95°C
Vapor Pressure	No data available
Evaporation Rate (BuAc=1)	No data available
Solubility in Water	100% Soluble
Vapor Density (Air = 1)	Not applicable
VOC (%)	No data available
Partition coefficient (n-octanol/water)	No data available
Viscosity	Non-Newtonian
Auto-ignition Temperature	Not applicable
Decomposition Temperature	No data available
Upper explosive limit	Not applicable
Lower explosive limit	Not applicable
Flammability (solid, gas)	Not applicable

10. STABILITY & REACTIVITY

Reactivity	None
Chemical Stability	Stable
Possibility of hazardous reactions	Hazardous polymerization will not occur.
Incompatibility with other material	Avoid use of product on burning metals, electrically energized equipment and contact with water reactive material
Hazardous decomposition product	Oxides of carbon, organic acids.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	**2-(2-Butoxyethoxy)ethanol** Oral LD_{50} (rat) >5660 mg/kg Dermal LD_{50} (rabbit) >2764 mg/kg Inhalation LC_{50} (rat) > 29 mg/l
Permissible Exposure Limit, LD50	> 2000 mg/kg body wt. of rat (oral)
Specific Target Organ Toxicity (STOT) – single exposure	Available data indicates this product is not expected to cause target organ effects after a single exposure.
Specific Target Organ Toxicity (STOT) – repeat exposure	Available data indicates this component not expected to cause target organ effects after repeated exposure.
Serious Eye damage/Irritation	2-(2-Butoxyethoxy)ethanol : Causes mild eye irritation Sodium decyl sulfate: Risk of serious eye damage (>=20%) Causes serious eye irritation (>=10 - <20%). Sodium octyl sulfate: Risk of serious eye damage (>=20%) Causes serious eye irritation (>=10 - <20%).
Skin Corrosion/Irritation	Causes skin irritation.
Respiratory or Skin Sensitization	Available data indicates this product is not expected to cause skin sensitization.
Carcinogenicity	Not considered carcinogenic by NTP, IARC, and OSHA.
Germ Cell Mutagenicity	Available data indicates this product is not expected to be mutagenic.
Reproductive Toxicity	Available data indicates this product is not expected to cause reproductive toxicity or birth defects.
Aspiration Hazard	Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity	No relevant studies identified.
Mobility in soil	No relevant studies identified.
Persistence/Degradability	No relevant studies identified.
Bioaccumulative Potential	No relevant studies identified.
Other adverse effects	No relevant studies identified.

13. DISPOSAL CONSIDERATION

Disposal Methods

This product, is not a RCRA-listed waste or hazardous waste as characterized by 40 CFR 261. However, state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Therefore, applicable local and state regulatory agencies should be contacted regarding disposal of waste foam concentrate or foam/foam solution.

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. High temperature incineration is required at a minimum of 1000°C with a minimum residence time of 2 seconds.

14. TRANSPORT INFORMATION

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

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

16. OTHER INFORMATION

NFPA Ratings
NFPA Code for Health - 0
NFPA Code for Flammability - 0
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards – None

Legend

ACGIH	:	American Conference of Governmental Industrial Hygienists
CAS	:	Chemical Abstracts Service
IARC	:	International Agency for Research on Cancer
LC50	:	Lethal Concentration 50%
LD50	:	Lethal Dose 50%
DOT	:	Department of Transportation
NFPA	:	National Fire Protection Association
TDG	:	Transportation of dangerous goods.
OSHA	:	Occupational Safety and Health Administration
PEL	:	Permissible Exposure Limit
UEL	:	Upper exposure limit
LEL	:	Lower exposure limit.
STEL	:	Short Term Exposure Limit
TLV	:	Threshold Limit Value
IATA	:	International Air Transport Association

PRODUCT SHEET

IFP UNILIGHT GREEN AR-SFFF 3x3

Synthetic Fluorine Free Foam Concentrate (Alcohol Resistant)

Description

IFP UNILIGHT GREEN AR-SFFF 3x3 is a specially formulated Fluorine Free non-toxic foam liquid concentrate, free from any fluoro-chemical and fluoropolymers. The highly stable foaming nature of IFP UNILIGHT GREEN AR-SFFF 3x3 allows the foam to spread across the burning liquid and get control over the fire. It is effective on hydrocarbon fires as well as polar solvent fires. IFP UNILIGHT GREEN AR-SFFF 3x3 is used at 3x3 proportioned solution on hydrocarbon liquid fires and alcohol fires. It does not contain any fluoro-chemical surfactant and therefore completely free from PFOS, PFOA and its derivatives and therefore complies with Directives (EU) 2017/1000 on PFOA and 2019/1021 (EU POPs directive). It is readily biodegradable and therefore most environment friendly foam and used a multipurpose fire fighting foam agent.

Properties

Appearance	Viscous Liquid
pH	7.0 - 8.0
Specific Gravity	1.02 to 1.05 gm/ml
Viscosity	2000 ± 300 cps
Freezing Point	less than (-)5°C

Application

IFP UNILIGHT GREEN AR-SFFF 3x3 is intended for use on Class B hydrocarbon fuels such as gasoline, kerosene, diesel etc. at a proportioning rate of 3% with fresh water and salt water. It is also recommended for use on fuels having water solubility like alcohols, ketones etc. with the same proportion rate as 3%.

IFP UNILIGHT GREEN AR-SFFF 3x3 is suitable for use in special appliances like Crash Tenders/ RIV where rapid extinguishment with limited quantity of foam is required. It can also be used in hydrocarbon storage tanks, process areas, warehouses, tanker loading areas and other local risks involving a spilled fuel fire. It can also be used to combat fires in Class A materials like Wood, Paper, Tyres etc. It can also be used in combination with dry chemical agents to provide even better fire suppression performance.

Proportioning

IFP UNILIGHT GREEN AR-SFFF 3x3 can easily be proportioned using conventional equipments

- Fixed and Portable In-line Inductors
- Balanced Pressure and variable flow proportioning systems.
- Bladder tanks.
- Around the pump inductor.
- Self inducting branchpipes and nozzles.

Discharge Devices

- Foam chambers
- Air aspirating foam nozzles.
- Air aspirating and non air aspirating sprinkler heads and spray nozzles
- Foam Monitor.
- Self inducting branchpipes and nozzles.

Storage/Shelf Life

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 10-15 years is expected. Freezing and thawing will have no impact on the performance.

For storing IFP UNILIGHT GREEN AR-SFFF 3x3, the following materials are recommended

SS-304, SS-316, Isophthalic Polyester Resin, Epoxy Resin, High Density Polythylene.

Galvanized pipe and fittings must not be used in areas where undiluted concentrate will contact them since corrosion will result.

Compatibility

IFP UNILIGHT GREEN AR-SFFF 3x3 is compatible with soft, hard, brackish or salt water.

IFP UNILIGHT GREEN AR-SFFF 3x3 shall not be mixed with other manufacturer's foam concentrate except for use in emergency situations.

Environmental and Toxicological Information

IFP UNILIGHT GREEN AR-SFFF 3x3 is biodegradable, low toxic. 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 GREEN AR-SFFF 3x3 concentrate or foam solution should be made in accordance with local government rules and regulations.

For further details see IFP UNILIGHT GREEN AR-SFFF 3x3 Material Safety Data Sheet/Safety Data Sheet.

Approval

UL 162 (Underwriters Laboratories)

Standards

- ISO 7203-1&3
- EN 1568-3&4
- ICAO Level B
- NFPA 11

Ordering Information

Part Number	Description	Volume, m^3 (ft^3)	Weight (kg)
114010-01	Pails/Cans 20L (5.28 Gallon)	0.028 (0.99)	22.0
114010-02	Pails/Cans 30L (7.93 Gallon)	0.040 (1.40)	33.0
114010-03	Barrels 200L (52.84 Gallon)	0.318 (11.23)	217.2
114010-04	IBC Tote 1000L (264.2 Gallon)	1.386 (49.09)	1097

Container capacity and seaworthy packing also complied with customers' requirements

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Low-expansion Foam Liquid Concentrate IFP UNILIGHT GREEN AR-SFFF 3x3

File Number: EX5308

COMPANY

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LOW-EXPANSION FOAM LIQUID CONCENTRATE INFO

IFP UNILIGHT GREEN AR-SFFF 3x3
Alcohol Resistant Synthetic Fluorine Free Foam (AR-SFFF)

FOAM CONCENTRATES FOR USE WITH THE FOLLOWING EQUIPMENT

Minimum Storage and Use Temperature

+35 F (1.7 C)

GENERAL

Hydrocarbon Fuels, percent

3

GENERAL

Polar Solvent Fuels, percent

3

PROPORTIONERS - PORTABLE IN-LINE INDUCTORS

Manufacturer and Model	Use Concentration, percent	Size, in.	Orifice Diameter/Setting	Inlet Pressure, psig	Length and Diameter of hose	Discharge Device Manufacturer and Model
National Foam Inc, Model HLP-9M	3	1-1/2	3 AR	180	200 ft of 2-1/2 in	National Foam Inc, Model JS-10

PROPORTIONERS - FIXED IN-LINE INDUCTORS

Manufacturer and Model	Use Concentration, percent	Size, in.	Orifice Diameter, in.	Inlet Pressure, psig	Back Presssure, psig
Angus Fire Ltd, Model: IND-65	3	2-1/2	0.27	135	57

NOZZLES

Manufacturer and Model	Size, in.	Inlet Pressure, psig	Fuel
National Foam Inc, Model: JS-10	1-1/2	67	--

FIXED FOAM DISCHARGE OUTLETS

Manufacturer and Model	Fuel	Inlet Pressure, psig	Flow Range, gpm	Orifice Diameter, in.	Min Design Application Density, gpm/sq ft
Angus Fire Ltd, Foam Maker, Model: TPS-80	Alcohol	57	116	0.86	0.16

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