



## Material Safety Datasheet (MSDS)



### Section 1: Product & Company Identification:

Trade Name/Product identification	LIFECO AR F3 GREEN Foam Concentrate Type 3X3
Application & Use	Fire Extinguishing Foam Concentrate
Manufacturer Address	LICHFIELD FIRE & SAFETY EQUIPMENT CO LTD Address: Edmund House, 12-22 Newhall Street, Birmingham, B3 3AS, United Kingdom. T. + 44 (0) 1902 798 706 Email: sales@lifeco-uk.com – engg@lifeco-uk.com Website: www.lifeco-uk.com
Product Description	Mixture of Hydrocarbon surfactant, fluoro surfactants & solvents

### Section 2: Ingredient - Composition Information:

MAJOR INGREDIENTS	CONCENTRATION %	CAS.No.	HEALTH CLASS
1. Hydrocarbon Foaming Agent	10 -15%	N/A	Xi R 36, 37, 38
2. Hydrocarbon Polymer	3-5 %	N/A	--
3. Solvent	10-12%	--	--
4. Gumming Polymer	0.7-1.0%	N/A	
5. Water	QS	7732-18-5	

### Section 3: Hazard Identification:

Flammability		Corrosive Material	Little corrosive to metal	
LEL %v	N/A		likes MS, Bronze,	
UEL %v	N/A		Aluminum	
TDG Flammability	N/A	Organic Peroxide	No	
Explosion Sensitivity to Impact	None	Auto-ignition	N/A	
Flammable Material	No	Temperature °C		
Oxidizer	No	Hazardous Polymerization	Will not occur	
Flash Point	>98°C	Explosive Material	No	
Explosion Sensitivity to static Electricity	None	Pyrophoric Material	No	
Combustible Liquid	No	Others	N/A	
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 1	Flammability 0	Stability 0	Special N/A

## Emergency Overview:

	<b>FIRE</b>
Fire Extinguishing Media	Material is itself a fire extinguishing agent
Special Procedures	None
Unusual Hazard	None
	<b>EXPOSURE</b>
User guidelines	Avoid getting chemicals on you or in you. Cause eye-irritation and may cause skin irritation. Swallowing large amount of chemicals may cause injury or irritation
	<b>SPILLS</b>
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:

Flush eyes with water at least for 15 minutes. Remove contaminated clothing. Wash skin with ample water several times. If ingested, have victim drink water and obtain medical attention immediately.

## Section 5: Fire Fighting Measures:

Fire Extinguishing Media	Material is itself a fire extinguishing agent
Unusual Hazard	None
Flammability	
LEL %v	N/A
UEL %v	N/A
TDG Flammability	N/A
Explosion Sensitivity to impact	None
Flammable Material	No
Flash Point	>98°C

## Section 6: Accidental Released 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 into drains should be avoided if at all possible and should under no circumstances be allowed without first consulting the local water authority and environment agency and also be made in accordance with federal, state and local regulations. Spillage can be absorbed with sand or contained with earth or spill control material. Shovel up spillage and place in labeled, sealable container for subsequent safe disposal as per local laws.

## Section 7: Handling & Storage:

Handling: No special handling techniques are required. Avoid getting chemicals on you or in you. Wash hands after handling chemicals. Don't eat or drink while handling chemicals.

Storage: Recommended storage temperature is 0°C to 49°C. No Special conditions are required for safe storage. The product should be stored in original sealed containers above 0°C and below 49°C and as much as possible it should keep 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. Use in well ventilation area and avoid prolong, extensive or repeated inhalation.

## Section 9: Physical & Chemical Properties:

Physical State	Viscous Liquid	Vapour Density (Air=1)	Data not available
Odour	Characteristic	Density at 20oC	1.01 – 1.05g/ml
Appearance	Green	Vapour Pressure	Data not available
Boiling point/Range	100°C (Initial)	@35°C,mm Hg	
Pour point	0°C	Solubility in water @30°C	100% Soluble
Viscosity	< 1200 cPs	pH	6.5 - 8.5

## 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	Cause eye-irritation and may cause skin irritation. Swallowing large amount of chemicals may cause injury or irritation
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## 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. The product does not contain any ethylene glycol or its ether derivates or polymers, Propylene glycol or its ether derivatives or polymers, Hexylene Glycol

### ADDITIONAL INFORMATION / REFERENCES

#### AQUATIC TOXICITY AND BIODEGRADATION

Foam Type	LC 50 96 Hrs Rainbow Trout	EC 50 24 Hrs Water Flea [Daphnia magna]	BOD/ COD 20 Days (%)
<b>LIFECO ARF3 GREEN 3 x 3 %</b>	402 ppm	1252 ppm	96%

Reference date: USFWS, 1984	
Toxicity Rating	Aquatic 96 Hours
Practically Non-toxic	100-1000 ppm
Non-Toxic	More than 1000 ppm

### Section 13: Disposal Consideration

The product shall not have any significant detrimental effect on the environment, nor present a waste disposal problem however 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

Shipping Name	N/A
Shipping Code/Label	N/A
Hazardous waste I.D. No	N/A
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 Directives 88379/EEC
Statutory Instruments	Chemical (Hazard information & Packaging for supply) Regulation 1994/Amendment Regulations 1996
Guidance Notes	Occupational exposure limit EH40/96
Transportation of Dangerous Goods information	Non required as per ADR/RID/IMGD, IATA & 49 CFR

### Section 16: Other Information

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.



## DISCLAIMER

This information is based on our knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements only. It should therefore not be construed as guaranteeing any specific property of the product. User is required to ensure suitability of the product for the intended use, compliance to regulations, for its safe use and disposal. **LICHFIELD FIRE & SAFETY EQUIPMENT CO LTD** will not be held responsible or liable for any injury or accident of any kind.