





**MATERIAL SAFETY DATA SHEET**  
**HD FFFP 3%**  
**FILM FORMING FLUORO PROTEIN**

**SECTION 7-HANDLING AND STORAGE**

Handling	No special handling techniques required
Storage	Recommended storage environment is 0° to 49° C. Store the product in original shipping container or tanks designed for product storage, away from direct Sunlight and heat. Do not put into contact with material which reacts violently with water. The product should be stored in sealed, original containers above 0° C and below 40° C. for the best results. Protect from frost.
Personal Protective Equipment- Fire Fighting	HD Fire Fighting Foam concentrates will be used by professional fire fighters to control and extinguish flammable liquid fires. This process may involve exposure to heat, flame and possibly toxic vapours and fumes. It is normal procedure to wear appropriately designed personal protective equipments suitable for fire fighting operations.

**SECTION 8 - EXPOSURE CONTROL & PERSONAL PROTECTION**

Occupational Exposure limit:	Not determined
Ventilation & engineering control measures:	Use only in well ventilated areas, avoid prolong, extensive or repeated inhalation or contact with eye and skin.
Personal Protective & Handling equipment	Body covering clothing recommended
Hand protection;	Wear impervious gloves of approved type (eg Neoprene)
Eye protection	Wear safety goggles of an approved type
Respiratory protection	Not required

**SECTION 9- PHYSICAL & CHEMICAL PROPERTIES**

Physical state	Dark brown liquid
pH at 20° C	6.0 - 7.5
Boiling Point	100° C at 760 mm Hg
Odour	Organic
Flash Point	> 98° C
Flammability	Non flammable
Solubility	Miscible with water in all proportions
Viscosity at 20° C	< 30 cSt
Specific gravity	1.10 - 1.14
Special fire fighting procedures	<b>None. This is an extinguishing agent</b>
Unusual fire and explosion hazards	None

**SECTION 10- REACTIVITY & STABILITY**

Stability	Generally stable. As with all aqueous solutions, prevent from contact with any material which have violent reaction with water
Hazardous decomposition products	Do not expose containers to heat or flame since the containers are made from high density polyethylene and will burn. Thermal decomposition of containers and/or product may generate acid smoke, fumes and traces of Na <sub>2</sub> O, Cl <sup>-</sup> , SO <sub>x</sub> , NO <sub>x</sub> & HF.

**SECTION 11-TOXICOLOGICAL INFORMATION/HEALTH EFFECT**

Inhalation	Inhalation of hazardous amount is unlikely, when used as intended. May cause irritation to respiratory tract when inhaled.
Ingestion	Low oral risk when used as indented. May cause nausea, vomiting and diarrhea if ingested.
Contact to eye or skin	Low risk if appropriate precautionary measures are taken see section 6. May cause skin and eye irritation when comes in contact with them.
Aqua toxicity	Guppy fish, No toxic effect till concentration of 1500 ppm for 96 hrs



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**SECTION 12 - ECOLOGICAL INFORMATION**

Persistence/degradability	Biodegradable
Bioaccumulation	Bioaccumulation is unlikely to occur due to metabolism and excretion
Biodegradation	Biodegradable
	COD Not determined
	BOD Not determined
Sewage treatment	Data not available

**SECTION 13- DISPOSAL CONSIDERATION**

Disposal	Waste should be disposed via local authority, waste collection service or registered waste carrier. Ensure that the destination is a licenced facility. Container should be disposed off as per local rules.												
Local legislation	<table><thead><tr><th></th><th>India</th><th>Europe</th></tr></thead><tbody><tr><td></td><td>AIR (Prevention &amp; Control of pollution) Act 1981</td><td>Control of Pollution Act 1974</td></tr><tr><td></td><td>The Water (Prevention &amp; control of Pollution) 1974</td><td>Special Wastage Regulation 1996</td></tr><tr><td></td><td>The Hazardous Waste (Mgt &amp; Handling) Rules1989</td><td>Environmental Protection Act 1990</td></tr></tbody></table>		India	Europe		AIR (Prevention & Control of pollution) Act 1981	Control of Pollution Act 1974		The Water (Prevention & control of Pollution) 1974	Special Wastage Regulation 1996		The Hazardous Waste (Mgt & Handling) Rules1989	Environmental Protection Act 1990
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Handling for disposal	Avoid contact with skin & eyes. Do not inhale excessively. Do not ingest. Wash thoroughly with clean water in case of contact.												
Method of disposal	Do not discharge into drain or water source. Contact concerned local authorities												

**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	Non required as per ADR/RID/IMGD,IATA & 49 CFR

**SECTION 16-OTHER INFORMATION**

Use & restriction	For Fire extinguishment
Revision Date	May 2015
Information Source	Data sheet of ingredients & packaging manufacturers, Literature from PPE manufacturers Central Pollution Control Board Guidelines - India

**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. HD Fire Protect Pvt. Ltd. will not be held responsible or liable for any injury or accident of any kind.