



## MATERIAL SAFETY DATA SHEET: AQUEOUS FILM FORMING FOAM (AFFF) LIQUID CONCENTRATE

**For FireSeal 3%**

### 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification	Product: FireSeal 3% Fire Fighting Foam Concentrate
	Synonyms: Aqueous Film Forming Foam (AFFF)
	CAS No: Mixture- No single CAS # applicable
	Company Identification
Manufacturer:	Ningbo Nenglin Fire Fighting Equipment Co., Ltd.
	Yunlong Town, Yinzhou, Ningbo, Zhejiang, 315 137, China
Tel	0086-574-88079701
Fax	0086-574-88493148

### 2. COMPOSITION | INFORMATION ON INGREDIENTS

Ingredients	Water, Synthetic Detergents Proprietary Mixture, no single CAS Number applicable (2-Methoxymethylethoxy), Propanol, Fluoroalkyl Surfactant Confidential
-------------	--

### 3. HAZARDS IDENTIFICATION

Potential Health Effects	
Inhalation	Vapours are minimal at room temperature. If product is heated or sprayed as an aerosol, airborne material may cause respiratory irritation.
Skin Contact	Contact with liquid may cause moderate irritation or dermatitis due to removal of oils from the skin.
Eye Contact	Product is an eye irritant.
Ingestion	Not a hazard in normal industrial use. Small amounts swallowed during normal handling operations are not likely to cause injury; swallowing large amounts may cause injury or irritation.
Additional Health Effects	Existing eye or skin sensitivity may be aggravated by exposure.
Carcinogenicity Information	No data available.

### 4. FIRST AID MEASURES

Inhalation	No specific treatment is necessary since this material is not likely to be hazardous by inhalation.  If exposed to excessive levels of airborne aerosol mists, remove to fresh air. Seek medical attention if effects occur.
Skin Contact	In case of skin contact, wash off in flowing water or shower. Launder clothing before re use.
Eye Contact	In case of eye contact, flush eyes promptly with water for 15 minutes. Retract eyelids often to ensure thorough rinsing. Consult a physician if irritation persists.
Ingestion	Swallowing less than an ounce is not expected to cause significant harm. For larger amounts, do not induce vomiting. Give milk or water. Never give anything by mouth to an unconscious person. Seek medical attention.



## MATERIAL SAFETY DATA SHEET: AQUEOUS FILM FORMING FOAM (AFFF) LIQUID CONCENTRATE

### 5. FIRE FIGHTING MEASURES

Flammable Properties	Flash Point C Not applicable
Fire and Explosion Hazards	Avoid contact with water reactive materials, burning metals and electrically energized equipment.
Extinguishing Media	Product is an extinguishing media. Use media appropriate for surrounding materials.
Special Fire Fighting Instructions	This product will produce foam when mixed with water.

### 6. ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)	NOTE: Review FIRE FIGHTING MEASURES and HANDLING (Personnel) sections before proceeding with clean up. Use appropriate Personal Protective Equipment during clean up.
Accidental Release Measures	
Concentrate	Stop flow if possible. Use appropriate protective equipment during clean up. For small volume releases, collect spilled concentrate with absorbent material; place in approved container. For large volume releases, contain and collect for use where possible. Flush area with water until it no longer foams. Exercise caution, surfaces may be slippery. Prevent discharge of concentrate to waterways. Disposal should be made in accordance with federal, state and local regulations.
Foam/Foam Solution	See above. Flush with water. Prevent discharge of foam / foam solution to waterways. Do not discharge into biological sewer treatment systems without prior approval. Disposal should be made in accordance with federal, state and local regulations.

### 7. HANDLING AND STORAGE

Handling (Personnel)	Avoid contact with eyes, skin or clothing. Avoid ingestion or inhalation. Rinse skin and eyes thoroughly in case of contact. Review HAZARDS and FIRST AID sections.
Storage	Recommended storage environment is between 2°C and 49°C. Store product in original shipping container or tanks designed for product storage.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Special ventilation is not required.
Personal Protective Equipment	
Respiratory	Recommended exposure limits have not been determined for this material. The need for respiratory protection should be evaluated by a qualified health specialist.
Protective Clothing	Rubber or PVC gloves recommended.
Eye Protection	Safety glasses, face shield or chemical splash goggles must be worn when possibility exists for eye contact. Contact lenses should not be worn. Eye wash facilities are recommended.
Other Hygienic Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before re-use.
Exposure Guidelines	
Exposure Limits	(2-Methoxymethylethoxy) Propanol (34590-94-8)
PEL(OSHA)	100 ppm, 8 hr. TWA Skin



## MATERIAL SAFETY DATA SHEET: AQUEOUS FILM FORMING FOAM (AFFF) LIQUID CONCENTRATE

	150 ppm, 15 min. STEL Skin
TLV (ACGIH)	100 ppm, 8 hr. TWA Skin
	150 ppm, 15 min. STEL Skin

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Data	
Boiling Point	Not applicable
Vapour Pressure	Not applicable
Vapour Density	Not applicable
Melting Point	Not applicable
Evaporation Rate	< 1 (Butyl Acetate = 1.0)
Solubility in Water	100%
PH	8.0
Specific Gravity	1.02 @ 25C
Odour	Mild, pleasant
Form	Liquid
Colour	Straw yellow

### 10. STABILITY AND REACTIVITY

Chemical Stability	Stable.
Incompatibility, Materials to Avoid	Avoid use of product on burning metals, electrically-energized equipment and contact with water reactive materials.
Polymerization	Will not occur.

### 11. TOXICOLOGICAL INFORMATION

Mammalian Toxicity	
Ingestion	This material was not toxic when administered to Wistar Albino rats at an acute oral dose of 5g/kg body weight.
Eye	Animal testing indicates this material is a primary eye irritant when tested undiluted on New Zealand Albino Rabbits.
Skin	Animal testing indicates this material is not a primary skin irritant when tested undiluted on New Zealand Albino Rabbits.
Inhalation	No data available at this time.
Carcinogenic, Developmental, Reproductive, Mutagenic Effects	No data available on this material.

### 12. ECOLOGICAL INFORMATION

Ecotoxicological Information Aquatic Toxicity	96 hr. Flow Through LC50 for Fathead Minnows (pimephales promelas) is reported to be greater than 1000 ppm.
---	---



## MATERIAL SAFETY DATA SHEET: AQUEOUS FILM FORMING FOAM (AFFF) LIQUID CONCENTRATE

### 13. DISPOSAL CONSIDERATIONS

FireSeal 3%, as sold, 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.

Concentrate	Do not discharge into biological sewer treatment systems without prior approval. Specific concerns are high BOD load and foaming tendency. Low dosage flow rate or anti-foaming agents acceptable to the treatment plant may be helpful. Do not flush to waterways. Disposal should be made in accordance with federal, state and local regulations.
Foam / Foam Solution	Fire Seal 3 % foam solution can be treated by waste water treatment facilities. Discharge into biological sewer treatment facilities may be done with prior approval. Specific concerns are high BOD load. Dilution will reduce BOD and COD factors proportionately. Low dosage flow rate or anti-foaming agents acceptable to the treatment plant may be helpful. Do not flush to waterways. Disposal should be made in accordance with federal, state and local regulations.

### 14. TRANSPORTATION INFORMATION

Shipping Information	
Hazard Class:	None
Land - railway and road	not regulated
Inland waterways	not regulated
Sea	Trem cards required, Available from HAZCHEM WISE 011 922 1600
Air	Trem cards required, Available from HAZCHEM WISE 011 922 1600

### 15. REGULATORY INFORMATION

Product Use	Classifications and Labelling have been performed according the SABS Directives.
-------------	--

### 16. ADDITIONAL INFORMATION

NFPA Rating	
Health	0
Flammability	0
Reactivity	0

The information contained herein is furnished without warranty either expressed or implied. This data sheet is not a part of any contract of sale. The information contained here in is believed to be correct or is obtained from sources believed to be generally reliable.

However, it is the responsibility of the user of these materials to investigate, understand and comply with federal, state and local guidelines and procedures for safe handling and use of these materials. Nenglin Fire Fighting shall not be liable for any loss or damage arising directly or indirectly from the use of this product and Nenglin Fire Fighting assumes no obligation or liabilities for reliance on the information contained herein or omissions herefrom.