



**DATA SHEET
#NFC300**

**AER-O-LITE 3% AFFF
Environmentally Responsible
Foam Concentrate**

Description

Environmentally Responsible Aer-O-Lite™ 3% is a superior quality aqueous film forming foam (AFFF) which is used at 3% concentration to extinguish fires in hydrocarbon fuels. This new formulation demonstrates National Foam’s commitment to superior flexibility, firefighting performance, and environmental responsibility. Aer-O-Lite 3% is suitable for use with most types of proportioning and discharge equipment.

AFFF foam concentrates are designed for rapid fire knockdown by producing a thin aqueous film which spreads across the surface of the fuel, separating the fuel from oxygen. This is accomplished by allowing the foam solution to quickly drain from the foam bubble which in turn, affects long term sealability and burnback resistance.

The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. The effectiveness of the aqueous film is directly influenced by the surface tension of the fuel. The film tends to be more effective on fuels with higher surface tension such as diesel and jet fuels, and less effective on fuels with lower surface tension such as hexane and gasoline.

Features

- Low energy input AFFF - requires minimal agitation.
- Excellent fluidity provides rapid “knockdown”.
- Suitable for use with fresh or sea water.
- Compatible with standard proportioning and foam making devices.
- Suitable for use with foam compatible dry powder extinguishing agents.

Applications

Aer-O-Lite 3% is used at 3% concentration in fire suppression systems and manually to fight fires involving hydrocarbon fuels such as crude oil, gasoline, and fuel oils. It is not suitable for use on polar solvents or water miscible fuels such as alcohol’s, ketones, esters, and ethers. Typical installations include foam water sprinkler systems, aircraft hangars, loading racks, process areas, etc. Aer-O-Lite 3% is an excellent agent for use in aircraft rescue and fire fighting (ARFF) or other manual fire fighting appli-

cations where polar solvent fuels are not encountered. It is also useful as a wetting agent in combating class A fires.

In general, AFFF foam concentrates may be used with non aspirating nozzles and sprinklers, however, for best foam expansion and 25% drainage time all foam concentrates should be used with aspirating nozzles and foam making discharge devices.

Typical Physical Properties

Appearance	Straw Yellow Color
Specific Gravity at 77°F(25°C)	1.03
pH	8.0
Viscosity at 77°F(25°C)	3.0 csk
Freezing Point	12°F(-11°C)
Minimum Usable Temperature	20°F(-7°C)
Maximum Usable Temperature	120°F(49°C)
Effects of Freeze/Thaw	No performance loss

Approvals and Listings

- Underwriters Laboratories, Inc.
- Underwriters’ Laboratories of Canada (ULC)
- Factory Mutual System

Aer-O-Lite 3% has successfully passed UL-162 7th Edition test criteria for use at 3% concentration on hydrocarbons. The U.L. Listings include application through a variety of proportioning and foam making discharge devices using fresh or sea water. Consult National Foam for a complete list of these devices.

Storage and Handling

Aer-O-Lite 3% is ideally stored in its original shipping container or in tanks or other containers which have been designed for such foam storage. Recommended construction materials are stainless steel (Type 304L or 316), high density cross linked polyethylene, or reinforced fiberglass polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (50-100 mils). Refer to National Foam Technical Bulletin NFTB100 for further information.

Foam concentrates are subject to evaporation which accelerates when the product is exposed to air. Storage tanks should be sealed and fitted with a pressure vacuum vent to prevent free exchange of air. The recommended

storage environment is within the U.L. listed temperature range of 20°F to 120°F (-7°C to 49°C).

It is recommended that Aer-O-Lite 3% not be mixed with any other type of foam concentrate in long term storage. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of firefighting capability. Most expanded foams are compatible for side-by-side application during an incident.

Aer-O-Lite 3% may be stored as a 3% premixed solution using fresh water. A biocide agent should be added to prolong storage life of the premix solution.

Aer-O-Lite 3% is suitable for use in combination with foam compatible dry chemical extinguishing agents.

Shelf Life, Inspection, and Testing

The shelf life of any foam concentrate is maximized by proper storage conditions and maintenance. Factors affecting shelf life are wide temperature changes, extreme high or low temperatures, evaporation, dilution, and contamination by foreign materials. Properly stored National Foam AFFF foam concentrates have been tested and shown no significant loss of fire fighting performance, even after 15 years.

Annual testing of all fire fighting foam is recommended by the National Fire Protection Association (NFPA). National Foam provides a Technical Service Program to conduct such tests.

Environmental and Toxicological Information

Aer-O-Lite 3% contains no ingredients reportable under the Superfund Amendments and Reauthorization Act (SARA) Title III, Section 313 of 40 CFR-372 or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as of July 1, 1995.

Aer-O-Lite 3% is biodegradable. However, as with any substance, care should be taken to prevent discharge from entering ground water, surface water, or storm drains. With advance notice, Aer-O-Lite 3% solution can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal or discharge of Aer-O-Lite 3% concentrate or foam solution should be made in accordance with federal, state, and local regulations.

The Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) of Aer-O-Lite 3% are as follows:

BOD ₅	(Concentrate)	239,000 mg/kg
BOD ₅	(3% Solution)	8,750 mg/kg
COD	(Concentrate)	400,000 mg/kg

Results of tests for acute oral toxicity and primary skin irritation have proved negative. Repeated skin contact will remove oils from the skin and cause dryness. Aer-O-Lite 3% is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment. If Aer-O-Lite 3% enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Aer-O-Lite 3% Material Safety Data Sheet.

Ordering Information

CONTAINER	SHIPPING WEIGHT	PART NUMBER
5-Gallon Pails (19 litres)	46 lb. (20.9 kg)	2133-5340-6
55-Gallon Drums (208 litres)	495 lb. (225.0 kg)	2133-5481-6
275-Gallon IBC Reusable Tote Tank (1041 litres)	2512 lb. (1141.8 kg)	2133-5725-6
Bulk	8.59 lb./gal.(1.03 kg/l)	2133-5001-6

Palletizing of pails and drums is available upon request.

SHIPPING CUBE

5-Gallon Pail	1.13 cu. ft. (0.032 cu. m)
55-Gallon Drum	11.51 cu. ft. (0.326 cu. m)
275-Gallon IBC Tote Tank	51.11 cu. ft. (1.1061 cu. m)

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

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NATIONAL FOAM, INC.

P.O. Box 695 • Exton, PA 19341-0695 • (610) 363-1400 • Fax: (610) 524-9073

www.Kidde-Fire.com



**DATA SHEET
#NFC310**

AER-O-LITE 3% COLD FOAM

Environmentally Responsible Foam Concentrate

Description

Environmentally Responsible Aer-O-Lite™ 3% Cold Foam is a superior quality aqueous film forming foam (AFFF) which is used at 3% concentration to extinguish fires in hydrocarbon fuels. This new formulation demonstrates National Foam’s commitment to superior flexibility, firefighting performance, and environmental responsibility. Aer-O-Lite 3% Cold Foam is suitable for use with most types of proportioning and discharge equipment.

AFFF foam concentrates are designed for rapid fire knock-down by producing a thin aqueous film which spreads across the surface of the fuel, separating the fuel from oxygen. This is accomplished by allowing the foam solution to quickly drain from the foam bubble which in turn, affects long term sealability and burnback resistance.

The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. The effectiveness of the aqueous film is directly influenced by the surface tension of the fuel. The film tends to be more effective on fuels with higher surface tension such as diesel and jet fuels, and less effective on fuels with lower surface tension such as hexane and gasoline.

Features

- Low energy input AFFF - requires minimal agitation.
- Excellent fluidity provides rapid “knockdown”.
- Suitable for use with fresh or sea water.
- Compatible with standard proportioning and foam making devices.
- Suitable for use with foam compatible dry powder extinguishing agents.
- Minimum usable temperature -20°F(-29°C).

Applications

Aer-O-Lite 3% Cold Foam is used at 3% concentration in fire suppression systems and manually to fight fires involving hydrocarbon fuels such as crude oil, gasoline, and fuel oils. It is not suitable for use on polar solvents or water miscible fuels such as alcohols, ketones, esters, and ethers. Typical installations include foam water sprinkler systems, aircraft hangars, loading racks, process areas, etc. Aer-O-Lite 3% Cold Foam is an excellent agent for use in aircraft rescue and fire fighting (ARFF) or other

manual fire fighting applications where polar solvent fuels are not encountered. It is also useful as a wetting agent in combating class A fires.

In general, AFFF foam concentrates may be used with non aspirating nozzles and sprinklers, however, for best foam expansion and 25% drainage time all foam concentrates should be used with aspirating nozzles and foam making discharge devices.

Typical Physical Properties

Appearance	Straw Yellow Color
Specific Gravity at 77°F(25°C)	1.06
pH	8.0
Viscosity at 77°F(25°C)	7.0 csk
Freezing Point	-70°F(-57°C)
Minimum Usable Temperature	-20°F(-29°C)
Maximum Usable Temperature	120°F(49°C)
Effects of Freeze/Thaw	No performance loss

Approvals and Listings

- Underwriters Laboratories, Inc.
- Underwriters’ Laboratories of Canada (ULC)
- Factory Mutual System

Aer-O-Lite 3% Cold Foam has successfully passed UL-162 7th Edition test criteria for use at 3% concentration on hydrocarbons. The U.L. Listings include application through a variety of proportioning and foam making discharge devices using fresh or sea water. Consult National Foam for a complete list of these devices.

Storage and Handling

Aer-O-Lite 3% Cold Foam is ideally stored in its original shipping container or in tanks or other containers which have been designed for such foam storage. Recommended construction materials are stainless steel (Type 304L or 316), high density cross linked polyethylene, or reinforced fiberglass polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (50-100 mills). Refer to National Foam Technical Bulletin NFTB100 for further information.

Foam concentrates are subject to evaporation which accelerates when the product is exposed to air. Storage tanks should be sealed and fitted with a pressure vacuum vent

to prevent free exchange of air. The recommended storage environment is with the U. L. listed temperature range of -20°F to 120°F (-29°C to 49°C).

It is recommended that Aer-O-Lite 3% Cold Foam not be mixed with any other type of foam concentrate in long term storage. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of firefighting capability. Most expanded foams are compatible for side-by-side application during an incident.

Aer-O-Lite 3% Cold Foam may be stored as a 3% premixed solution using fresh water. A biocide agent should be added to prolong storage life of the premix solution.

Aer-O-Lite 3% Cold Foam is suitable for use in combination with foam compatible dry chemical extinguishing agents.

Shelf Life, Inspection and Testing

The shelf life of any foam concentrate is maximized by proper storage conditions and maintenance. Factors affecting shelf life are wide temperature changes, extreme high or low temperatures, evaporation, dilution, and contamination by foreign materials. Properly stored National Foam AFFF foam concentrates have been tested and shown no significant loss of fire fighting performance, even after 15 years.

Annual testing of all fire fighting foam is recommended by the National Fire Protection Association (NFPA). National Foam provides a Technical Service Program to conduct such tests.

Environmental and Toxicological Information

Aer-O-Lite 3% Cold Foam contains no ingredients reportable under the Superfund Amendments and Reauthorization Act (SARA) Title III, Section 313 of 40 CFR-372 or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as of July 1, 1995.

Aer-O-Lite 3% Cold Foam is biodegradable. However, as with any substance, care should be taken to prevent discharge from entering ground water surface water, or storm drains. With advance notice, Aer-O-Lite 3% Cold Foam solution can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal or discharge of Aer-O-Lite 3% Cold Foam concentrate or foam solution should be made in accordance with federal, state, and local regulations.

The Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) of Aer-O-Lite 3% Cold Foam are as follows:

BOD5 (Concentrate) 441,000 mg/kg
COD (Concentrate) 1,300,000 mg/kg

Results of tests for acute oral toxicity and primary skin irritation have proved negative. Repeated skin contact will remove oils from the skin and cause dryness. Aer-O-Lite 3% Cold Foam is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment. If Aer-O-Lite 3% Cold Foam enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Aer-O-Lite 3% Cold Foam Material Safety Data Sheet.

Ordering Information

CONTAINER	SHIPPING WEIGHT	PART NUMBER
5-Gallon Pails (19 litres)	47 lb. (21.49 kg)	2133-6340-6
55-Gallon Drums (208 litres)	509 lb. (231.4 kg)	2133-6481-6
275-Gallon IBC Reusable Tote Tank (1041 litres)	2581 lb. (1173.2 kg)	2133-6725-6
Bulk	8.84 lb./gal.(1.06 kg/l)	2133-6001-6

Palletizing of pails and drums is available upon request.

SHIPPING CUBE

5-Gallon Pail	1.13 cu. ft. (0.032 cu. m)
55-Gallon Drum	11.51 cu. ft. (0.326 cu. m)
275-Gallon IBC Tote Tank	51.11 cu. ft. (1.1061 cu. m)

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

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NATIONAL FOAM, INC.

P.O. Box 695 • Exton, PA 19341-0695 • (610) 363-1400 • Fax: (610) 524-9073

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**DATA SHEET
#NFC315**

AER-O-LITE 1% COLD FOAM

Environmentally Responsible Foam Concentrate

Description

Environmentally Responsible Aer-O-Lite™ 1% Cold Foam is a superior quality aqueous film forming foam (AFFF) which is used at 1% concentration to extinguish fires in hydrocarbon fuels. This new formulation demonstrates National Foam’s commitment to superior flexibility, firefighting performance, and environmental responsibility. Aer-O-Lite 1% Cold Foam is suitable for use with most types of proportioning and discharge equipment.

AFFF foam concentrates are designed for rapid fire knock-down by producing a thin aqueous film which spreads across the surface of the fuel, separating the fuel from oxygen. This is accomplished by allowing the foam solution to quickly drain from the foam bubble which in turn, affects long term sealability and burnback resistance.

The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. The effectiveness of the aqueous film is directly influenced by the surface tension of the fuel. The film tends to be more effective on fuels with higher surface tension such as diesel and jet fuels, and less effective on fuels with lower surface tension such as hexane and gasoline.

Features

- Low energy input AFFF - requires minimal agitation.
- Excellent fluidity provides rapid “knockdown”.
- Suitable for use with fresh or sea water.
- Compatible with standard proportioning and foam making devices.
- Suitable for use with foam compatible dry powder extinguishing agents.
- Minimum usable temperature 0°F(-18°C).

Applications

Aer-O-Lite 1% Cold Foam is used at 1% concentration in fire suppression systems and manually to fight fires involving hydrocarbon fuels such as crude oil, gasoline, and fuel oils. It is not suitable for use on polar solvents or water miscible fuels such as alcohols, ketones, esters, and ethers. Typical installations include foam water sprinkler systems, aircraft hangars, loading racks, process areas, etc. Aer-O-Lite 1% Cold Foam is an excellent agent for use in aircraft

rescue and fire fighting (ARFF) or other manual fire fighting applications where polar solvent fuels are not encountered. It is also useful as a wetting agent in combating class A fires.

In general, AFFF foam concentrates may be used with non aspirating nozzles and sprinklers, however, for best foam expansion and 25% drainage time all foam concentrates should be used with aspirating nozzles and foam making discharge devices.

Typical Physical Properties

Appearance	Pale Yellow Color
Specific Gravity at 77°F(25°C)	1.06
pH	7.8
Viscosity at 77°F(25°C)	13.0 csk
Freezing Point	<-20°F(<-29°C)
Minimum Usable Temperature	0°F(-18°C)
Maximum Usable Temperature	120°F(49°C)
Effects of Freeze/Thaw	No performance loss

Approvals and Listings

- Underwriters Laboratories, Inc.
- Underwriters’ Laboratories of Canada (ULC)

Aer-O-Lite 1% Cold Foam has successfully passed UL-162 7th Edition test criteria for use at 1% concentration on hydrocarbons. The U.L. listings include application through a variety of proportioning and foam making discharge devices using fresh or sea water. Consult National Foam for a complete list of these devices.

Storage and Handling

Aer-O-Lite 1% Cold Foam is ideally stored in its original shipping container or in tanks or other containers which have been designed for such foam storage. Recommended construction materials are stainless steel (Type 304L or 316), high density cross linked polyethylene, or reinforced fiberglass polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (50-100 mils). Refer to National Foam Technical Bulletin NFTB100 for further information.

Foam concentrates are subject to evaporation which accelerates when the product is exposed to air. Storage tanks should be sealed and fitted with a pressure vacuum vent

to prevent free exchange of air. The recommended storage environment is within the U.L. listed temperature range of -0°F to 120°F (-18°C to 49°C).

It is recommended that Aer-O-Lite 1% Cold Foam not be mixed with any other type of foam concentrate in long term storage. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of firefighting capability. Most expanded foams are compatible for side-by-side application during an incident.

Aer-O-Lite 1% Cold Foam may be stored as a 1% premixed solution using fresh water. A biocide agent should be added to prolong storage life of the premix solution.

Aer-O-Lite 1% Cold Foam is suitable for use in combination with foam compatible dry chemical extinguishing agents.

Shelf Life, Inspection and Testing

The shelf life of any foam concentrate is maximized by proper storage conditions and maintenance. Factors affecting shelf life are wide temperature changes, extreme high or low temperatures, evaporation, dilution, and contamination by foreign materials. Properly stored National Foam AFFF foam concentrates have been tested and shown no significant loss of fire fighting performance, even after 15 years.

Annual testing of all fire fighting foam is recommended by the National Fire Protection Association (NFPA). National Foam provides a Technical Service Program to conduct such tests.

Environmental and Toxicological Information

Aer-O-Lite 1% Cold Foam contains no ingredients reportable under the Superfund Amendments and Reauthorization Act (SARA) Title III, Section 313 of 40 CFR-372 or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as of July 1, 1995.

Aer-O-Lite 1% Cold Foam is biodegradable. However, as with any substance, care should be taken to prevent discharge from entering ground water, surface water, or storm drains. With advance notice, Aer-O-Lite 1% Cold Foam solution can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal or discharge of Aer-O-Lite 1% Cold Foam concentrate or foam solution should be made in accordance with federal, state, and local regulations.

Results of tests for acute oral toxicity and primary skin irritation have proved negative. Repeated skin contact will remove oils from the skin and cause dryness. Aer-O-Lite 1% Cold Foam is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment. If Aer-O-Lite 1% Cold Foam enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Aer-O-Lite 1% Cold Foam Material Safety Data Sheet.

Ordering Information

CONTAINER	SHIPPING WEIGHT	PART NUMBER
5-Gallon Pails (19 litres)	47 lb. (21.49 kg)	2131-1340-6
55-Gallon Drums (208 litres)	509 lb. (231.4 kg)	2131-1481-6
275-Gallon IBC Reusable Tote Tank (1041 litres)	2581 lb. (1173.2 kg)	2131-1725-6
Bulk	8.84 lb./gal.(1.06 kg/l)	2131-1001-6

Palletizing of pails and drums is available upon request.

SHIPPING CUBE

5-Gallon Pail	1.13 cu. ft. (0.032 cu. m)
55-Gallon Drum	11.51 cu. ft. (0.326 cu. m)
275-Gallon IBC Tote Tank	51.11 cu. ft. (1.1061 cu. m)

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

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NATIONAL FOAM, INC.

P.O. Box 695 • Exton, PA 19341-0695 • (610) 363-1400 • Fax: (610) 524-9073

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**DATA SHEET
#NFC320**

**AER-O-LITE 6% AFFF
Environmentally Responsible
Foam Concentrate**

Description

Environmentally Responsible Aer-O-Lite™ 6% is a superior quality aqueous film forming foam (AFFF) which is used at 6% concentration to extinguish fires in hydrocarbon fuels. This new formulation demonstrates National Foam's commitment to superior flexibility, firefighting performance, and environmental responsibility. Aer-O-Lite 6% is suitable for use with most types of proportioning and discharge equipment.

AFFF foam concentrates are designed for rapid fire knock-down by producing a thin aqueous film which spreads across the surface of the fuel, separating the fuel from oxygen. This is accomplished by allowing the foam solution to quickly drain from the foam bubble which in turn, affects long term sealability and burnback resistance.

The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. The effectiveness of the aqueous film is directly influenced by the surface tension of the fuel. The film tends to be more effective on fuels with higher surface tension such as diesel and jet fuels, and less effective on fuels with lower surface tension such as hexane and gasoline.

Features

- Low energy input AFFF - requires minimal agitation.
- Excellent fluidity provides rapid "knockdown".
- Suitable for use with fresh or sea water.
- Compatible with standard proportioning and foam making devices.
- Suitable for use with foam compatible dry powder extinguishing agents.

Applications

Aer-O-Lite 6% is used at 6% concentration in fire suppression systems and manually to fight fires involving hydrocarbon fuels such as crude oil, gasoline, and fuel oils. It is not suitable for use on polar solvents or water miscible fuels such as alcohols, ketones, esters, and ethers. Typical installations include foam-water sprinkler systems, aircraft hangars, loading racks, process areas, etc. Aer-O-Lite 6% is an excellent agent for use in aircraft rescue

and fire fighting (ARFF) or other manual fire fighting applications where polar solvent fuels are not encountered. It is also useful as a wetting agent in combating Class A fires.

In general, AFFF foam concentrates may be used with non aspirating nozzles and sprinklers, however, for best foam expansion and 25% drainage time all foam concentrates should be used with aspirating nozzles and foam making discharge devices.

Typical Physical Properties

Appearance	Straw Yellow Color
Specific Gravity at 77°F(25°C)	1.02
pH	8.0
Viscosity at 77°F(25°C)	2.0 csk
Freezing Point	24°F(-4°C)
Minimum Usable Temperature	35°F(2°C)
Maximum Usable Temperature	120°F(49°C)
Effects of Freeze/Thaw	No performance loss

Approvals and Listings

- Underwriters Laboratories, Inc.
- Underwriters' Laboratories of Canada (ULC)

Aer-O-Lite 6% has successfully passed UL-162 7th Edition test criteria for use at 6% concentration on hydrocarbons. The U.L. listings include application through a variety of proportioning and foam making discharge devices using fresh or sea water. Consult National Foam for a complete list of these devices.

Storage and Handling

Aer-O-Lite 6% is ideally stored in its original shipping container or in tanks or other containers which have been designed for such foam storage. Recommended construction materials are stainless steel (Type 304L or 316), high density cross linked polyethylene, or reinforced fiberglass polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (50-100 mils). Refer to National Foam Technical Bulletin NFTB100 for further information.

Foam concentrates are subject to evaporation which accelerates when the product is exposed to air. Storage tanks

should be sealed and fitted with a pressure vacuum vent to prevent free exchange of air. The recommended storage environment is within the U.L. listed temperature range of 35°F to 120°F (2°C to 49°C).

It is recommended that Aer-O-Lite 6% not be mixed with any other type of foam concentrate in long term storage. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of firefighting capability. Most expanded foams are compatible for side-by-side application during an incident.

Aer-O-Lite 6% may be stored as a 6% premixed solution using fresh water. A biocide agent should be added to prolong storage life of the premix solution.

Aer-O-Lite 6% is suitable for use in combination with foam compatible dry chemical extinguishing agents.

Shelf Life, Inspection and Testing

The shelf life of any foam concentrate is maximized by proper storage conditions and maintenance. Factors affecting shelf life are wide temperature changes, extreme high or low temperatures, evaporation, dilution, and contamination by foreign materials. Properly stored National Foam AFFF foam concentrates have been tested and shown no significant loss of fire fighting performance, even after 15 years.

Annual testing of all fire fighting foam is recommended by the National Fire Protection Association (NFPA). National Foam provides a Technical Service Program to conduct such tests.

Environmental and Toxicological Information

Aer-O-Lite 6% contains no ingredients reportable under the Superfund Amendments and Reauthorization Act (SARA) Title III, Section 313 of 40 CFR-372 or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as of July 1, 1995.

Aer-O-Lite 6% is biodegradable. However, as with any substance, care should be taken to prevent discharge from entering ground water, surface water, or storm drains. With advance notice, Aer-O-Lite 6% solution can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal or discharge of Aer-O-Lite 6% concentrate or foam solution should be made in accordance with federal, state, and local regulations.

The Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) of Aer-O-Lite 6% are as follows:

BOD₅ (Concentrate) 151,000 mg/kg
 COD (Concentrate) 260,000 mg/kg

Results of tests for acute oral toxicity and primary skin irritation have proved negative. Repeated skin contact will remove oils from the skin and cause dryness. Aer-O-Lite 6% is a primary eye irritant, and contact with the eyes should be avoided. Users are advised to wear protective equipment. If Aer-O-Lite 6% enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Aer-O-Lite 6% Material Safety Data Sheet.

Ordering Information

CONTAINER	SHIPPING WEIGHT	PART NUMBER
5-Gallon Pails		
(19 litres)	45 lb. (20.5 kg)	2136-2340-6
55-Gallon Drums		
(208 litres)	491 lb. (223.2 kg)	2136-2481-6
275-Gallon IBC Reusable Tote Tank		
(1041 litres)	2490 lb. (1131.8 kg)	2136-2725-6
Bulk		
	8.51 lb./gal.(1.02 kg/l)	2136-2001-6

Palletizing of pails and drums is available upon request.

SHIPPING CUBE

5-Gallon Pail	1.13 cu. ft. (0.032 cu. m)
55-Gallon Drum	11.51 cu. ft. (0.326 cu. m)
275-Gallon IBC Tote Tank	51.11 cu. ft. (1.1061 cu. m)

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

08/07 (Rev D) Printed in USA (NFC320-AOL6.PMD)



DATA SHEET #NFC330

CENTURION 3% AFFF

Environmentally Responsible Foam Concentrate

Description

Environmentally Responsible Centurion 3% is aqueous film-forming foam (AFFF) which is used at 3% concentration to extinguish fires in hydrocarbon fuels. This new formulation demonstrates National Foam's commitment to superior flexibility, firefighting performance, and environmental responsibility. Centurion 3% is suitable for use with most types of proportioning and discharge equipment.

AFFF foam concentrates are designed for rapid fire knockdown by producing a thin aqueous film which spreads across the surface of the fuel, separating the fuel from oxygen. This is accomplished by allowing the foam solution to quickly drain from the foam bubble that in turn, affects long term sealability and burnback resistance.

The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. The effectiveness of the aqueous film is directly influenced by the surface tension of the fuel. The film tends to be more effective on fuels with higher surface tension such as diesel and jet fuels, and less effective on fuels with lower surface tension such as hexane and gasoline.

Features

- Low energy input AFFF – requires minimal agitation.
- Excellent fluidity provides rapid “knockdown”.
- Suitable for use with fresh or sea water.
- Compatible with standard proportioning and air aspirating foam making devices.
- Suitable for use with foam compatible dry powder extinguishing agents.

Applications

Centurion 3% is used at 3% concentration in fire suppression systems and manually to fight fires involving hydrocarbon fuels such as crude oil, gasoline, and fuel oils. It is not suitable for use on polar solvents or water miscible fuels such as alcohols, ketones, esters, and ethers. Typical installations include foam-water sprinkler systems, aircraft hangars, loading racks, process areas, etc. Centurion 3% is an excellent agent for use in aircraft rescue and fire fighting (ARFF) or other manual fire fighting applications where polar solvent fuels are not encountered. It is also useful as a wetting agent in combating Class A fires.

In general, AFFF foam concentrates may be used with non-aspirating nozzles and sprinklers, however, for best foam expansion and 25% drainage time all foam concentrates should be used with aspirating nozzles and foam making discharge devices.

Typical Physical Properties

Appearance	Pale Yellow Liquid
Specific Gravity at 77°F(25°C)	1.03
pH	8.0
Viscosity at 77°F(25°C)	2.0 csk
Freezing Point	23°F(-5°C)
Minimum Usable Temperature	35°F(2°C)
Maximum Usable Temperature	120°F(49°C)
Effects of Freeze/Thaw	No performance loss

Approvals and Listings

- Underwriters Laboratories, Inc.
- Underwriters' Laboratories of Canada (ULC)

Centurion 3% has successfully passed UL-162 7th Edition test criteria for use at 3% concentration on hydrocarbons. The U.L. listings include application through a variety of proportioning and foam making discharge devices using fresh or sea water. Consult National Foam for a complete list of these devices.

Storage and Handling

Centurion 3% is ideally stored in its original shipping container or in tanks or other containers which have been designed for such foam storage. Recommended construction materials are stainless steel (Type 304L or 316), high density cross-linked polyethylene or reinforced polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (50-100 mils). Refer to National Foam Technical Bulletin NFTB100 for further information.

Foam concentrates are subject to evaporation, which accelerates when the product is exposed to air. Storage tanks should be sealed and fitted with a pressure vacuum vent to prevent free exchange of air. The recommended storage environment is within the U.L. listed temperature range of 35°F to 120°F (2°C to 49°C).

It is recommended that Centurion 3% not be mixed with any other type of foam concentrate in long term storage.

Such mixing could lead to chemical changes in the product and a possible reduction in or loss of firefighting capability. Most expanded foams are compatible for side-by-side application during an incident.

Centurion 3% is suitable for use in combination with foam compatible dry chemical extinguishing agents.

Shelf Life, Inspection, and Testing

Proper storage conditions and maintenance maximize the shelf life of any foam concentrate. Factors affecting shelf life are wide temperature changes, extreme high or low temperatures, evaporation, dilution, and contamination by foreign materials. Properly stored National Foam AFFF foam concentrates have been tested and shown no significant loss of firefighting performance, even after 15 years.

The National Fire Protection Association (NFPA) recommends annual testing of all firefighting foam. National Foam provides a Technical Service Program to conduct such tests.

Environmental and Toxicological Information

Centurion 3% contains no ingredients reportable under the Superfund Amendments and Reauthorization Act (SARA) Title III, Section 313 of 40 CFR-372 or the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as of July 1, 1995.

Centurion 3% is biodegradable. However, as with any substance, care should be taken to prevent discharge from entering ground water, surface water, or storm drains. With advance notice, Centurion 3% solution can be treated by local biological sewage treatment systems. Since facilities vary widely by location, disposal or discharge of Centurion 3% concentrate or foam solution should be made in accordance with federal, state, and local regulations.

Repeated skin contact will remove oils from the skin and cause dryness. Users are advised to wear protective equipment. Centurion 3% is a primary eye irritant, and contact with the eyes should be avoided. If Centurion 3% enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Centurion 3% Material Safety Data Sheet.

Ordering Information

CONTAINER	SHIPPING WEIGHT	PART NUMBER
5-Gallon Pails (19 liters)	46 lbs. (20.9 kg)	2133-7340-6
55-Gallon Drums (208 liters)	494 lbs. (225 kg)	2133-7481-6
275-Gallon IBC Reusable Tote Tank (1041 liters)	2512 lbs. (1141.8 kg)	2133-7725-6
Bulk	8.59 lbs./gal (1.03kg/l)	2133-7001-6

Palletizing of pails and drums is available upon request.

SHIPPING CUBE

5-Gallon Pail	1.13 cu. ft. (0.032 cu. m)
55-Gallon Drum	11.51 cu. ft. (0.326 cu. m)
275-Gallon IBC Tote Tank	51.11 cu. ft. (1.1061 cu. m)

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

08/07 (Rev B) Printed in USA (NFC330-Centurion 3% AFFF.PMD)



DATA SHEET #NFC340

CENTURION 6% AFFF Environmentally Responsible Foam Concentrate

Description

Environmentally Responsible Centurion 6% is aqueous film-forming foam (AFFF) which is used at 6% concentration to extinguish fires in hydrocarbon fuels. This new formulation demonstrates National Foam's commitment to superior flexibility, firefighting performance, and environmental responsibility. Centurion 6% is suitable for use with most types of proportioning and discharge equipment.

AFFF foam concentrates are designed for rapid fire knockdown by producing a thin aqueous film which spreads across the surface of the fuel, separating the fuel from oxygen. This is accomplished by allowing the foam solution to quickly drain from the foam bubble that in turn, affects long term sealability and burnback resistance.

The aqueous film is produced by the fluorocarbon surfactant reducing the surface tension of the foam solution to a point where the solution can be supported by the surface tension of the fuel. The effectiveness of the aqueous film is directly influenced by the surface tension of the fuel. The film tends to be more effective on fuels with higher surface tension such as diesel and jet fuels, and less effective on fuels with lower surface tension such as hexane and gasoline.

Features

- Low energy input AFFF - requires minimal agitation.
- Excellent fluidity provides rapid "knockdown".
- Suitable for use with fresh or sea water.
- Compatible with standard proportioning and air aspirating foam making devices.
- Suitable for use with foam compatible dry powder extinguishing agents.

Applications

Centurion 6% is used at 6% concentration in fire suppression systems and manually to fight fires involving hydrocarbon fuels such as crude oil, gasoline, and fuel oils. It is not suitable for use on polar solvents or water miscible fuels such as alcohols, ketones, esters, and ethers. Typical installations include foam-water sprinkler systems, aircraft hangars, loading racks, process areas, etc. Centurion 6% is an excellent agent for use in aircraft rescue and fire fighting (ARFF) or other manual fire fighting appli-

cations where polar solvent fuels are not encountered. It is also useful as a wetting agent in combating Class A fires.

In general, AFFF foam concentrates may be used with non-aspirating nozzles and sprinklers, however, for best foam expansion and 25% drainage time all foam concentrates should be used with aspirating nozzles and foam making discharge devices.

Typical Physical Properties

Appearance	Colorless Liquid
Specific Gravity at 68°F(20°C)	1.02
pH	8.0
Viscosity at 68°F(20°C)	1.0 csk
Freezing Point	28°F(-2.2°C)
Minimum Usable Temperature	35°F(2°C)
Maximum Usable Temperature	120°F(49°C)
Effects of Freeze/Thaw	No performance loss

Approvals and Listings

- Underwriters Laboratories, Inc.
- Underwriters' Laboratories of Canada (ULC)

Centurion 6% has successfully passed UL-162 7th Edition test criteria for use at 6% concentration on hydrocarbons. The U.L. listings include application through a variety of proportioning and foam making discharge devices using fresh or sea water. Consult the National Foam Engineering Manual for a complete list of these devices.

Storage and Handling

Centurion 6% is ideally stored in its original shipping container or in tanks or other containers which have been designed for such foam storage. Recommended construction materials are stainless steel (Type 304L or 316), high-density cross-linked polyethylene, or reinforced polyester (isophthalic polyester resin) with a vinyl ester resin internal layer coating (50-100 mils). Refer to National Foam Technical Bulletin NFTB100 for further information.

Foam concentrates are subject to evaporation, which accelerates when the product is exposed to air. Storage tanks should be sealed and fitted with a pressure vacuum

vent to prevent free exchange of air. The recommended storage environment is within the U.L. listed temperature range of 35°F to 120°F (2°C to 49°C).

It is recommended that Centurion 6% not be mixed with any other type of foam concentrate in long term storage. Such mixing could lead to chemical changes in the product and a possible reduction in or loss of firefighting capability. Most expanded foams are compatible for side-by-side application during an incident.

Centurion 6% is suitable for use in combination with foam compatible dry chemical extinguishing agents.

Shelf Life, Inspection and Testing

Proper storage conditions and maintenance maximize the shelf life of any foam concentrate. Factors affecting shelf life are wide temperature changes, extreme high or low temperatures, evaporation, dilution, and contamination by foreign materials. Properly stored National Foam AFFF foam concentrates have been tested and shown no significant loss of firefighting performance, even after 15 years.

The National Fire Protection Association (NFPA) recommends annual testing of all firefighting foam. National Foam provides a Technical Service Program to conduct such tests.

Environmental and Toxicological Information

Centurion 6% contains no ingredients reportable under the Superfund Amendments and Reauthorization Act (SARA) Title III, Section 313 of 40 CFR-372 or the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as of July 1, 1995.

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Repeated skin contact will remove oils from the skin and cause dryness. Users are advised to wear protective equipment. Centurion 6% is a primary eye irritant, and contact with the eyes should be avoided. If Centurion 6% enters the eyes, flush them well with water and seek immediate medical attention. For further details, see the Centurion 6% Material Safety Data Sheet.

Ordering Information

CONTAINER	SHIPPING WEIGHT	PART NUMBER
5-Gallon Pails (19 litres)	45 lb. (20.5 kg)	2136-3340-6
55-Gallon Drums (208 litres)	491 lb. (223.2 kg)	2136-3481-6
275-Gallon IBC Reusable Tote Tank (1041 litres)	2490 lb. (1131.8 kg)	2136-3725-6
Bulk	8.51 lb./gal.(1.02 kg/l)	2136-3001-6

Palletizing of pails and drums is available upon request.

SHIPPING CUBE

5-Gallon Pail	1.13 cu. ft. (0.032 cu. m)
55-Gallon Drum	11.51 cu. ft. (0.326 cu. m)
275-Gallon IBC Tote Tank	51.11 cu. ft. (1.1061 cu. m)

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

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NATIONAL FOAM, INC.

P.O. Box 695 • Exton, PA 19341-0695 • (610) 363-1400 • Fax: (610) 524-9073

www.Kidde-Fire.com