



MATERIAL SAFETY DATA SHEET #AMS183

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product identifier: ALCOSEAL 3/6%[®] AR-FFFP

Synonyms: Alcohol Resistant Film Forming Fluoroprotein (AR-FFFP)

CAS #: Mixture, no single CAS number is available

Product use: Fire fighting foam concentrate

Product description: Hydrolized protein solution containing fluorosurfactants and glycol solvent.

Supplier name and address:

Angus Fire
180 Sheree Boulevard, Suite 3900 · P.O. Box 695
Exton, PA 19341 USA
Phone: (610) 363-1400 · Fax: (610) 524-9073
www.nationalfoam.com

Emergency Telephone #: 1-800-334-3156

SECTION 2 - CHEMICAL COMPOSITION/HAZARDOUS INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>% (weight)</u>	<u>LD50 mg/kg (rat, oral)</u>	<u>LC50 ppm (rat, ihl)</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Hydrolized protein	None	21-31	N/Av	N/Av	None	None
Fluorosurfactants	N/Av	3-7	N/Av	N/Av	N/Av	N/Av
1,2 benzoisothiazelin-3-one	N/Av	1-5	N/Av	N/Av	N/Av	N/Av
Hexylene glycol	107-41-5	5-10	3700	>310 mg/m ³ /1H	N/Av	25 ppm (ceiling)
Water	7732-18-5	Balance	190 gm/kg	N/Av	None	None

SECTION 3 - HAZARD IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Target organs: Lungs, skin, eyes

Signs and symptoms of short-term (acute) exposure:

Inhalation: Inhalation of vapours may cause respiratory irritation.

Skin contact: Can cause skin irritation.

Eye contact: Can cause eye irritation.

Ingestion: It is not likely that this product will be swallowed if used as intended. It may cause nausea and vomiting if swallowed.

Effects of long-term (chronic) exposure:

None known.

Other important hazards: None

SECTION 4 - FIRST AID MEASURES

- Inhalation:** If someone feels ill after inhaling vapours, remove them to fresh air. Call a physician if symptoms do not go away quickly.
- Skin contact:** If product gets on skin, wash off with large amounts of water
- Eye contact:** If liquid is splashed in eyes, immediately flush eyes with lots of water for 15 minutes, including under the eyelids. Call a physician right away.
- Ingestion:** If swallowed, call a physician or Poison Control Centre. DO NOT induce vomiting unless directed to do so by a physician. If vomiting does occur, position victim so that fluid does not drain back into lungs.

SECTION 5 - FIRE FIGHTING MEASURES

- Fire hazards/conditions of flammability:** Not flammable under normal conditions of use. May be combustible if heated above its flash point.
- Flash point (Method):** >190°F (>88°C) (Pensky Martens Closed Cup)
- Lower/Upper flammable limit (% by volume):** Product is not flammable under normal conditions.
- Explosion data:**
- Sensitivity to mechanical impact:* Not sensitive to mechanical impact.
 - Sensitivity to static discharge:* Not sensitive to static discharge at temperatures below the flash point.
- Oxidizing properties:** Product is not an oxidizer
- Auto-ignition temperature:** N/Av
- Suitable extinguishing media:** Not applicable.
- Special fire-fighting procedures/equipment:** Not applicable.
- Hazardous combustion products:** Not applicable.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Personal precautions:** Wear appropriate protective equipment (see Section 8).
- Environmental precautions:** If in doubt about proper disposal, contact local, state or federal EPA (in USA) or municipal or provincial environmental authorities (in Canada).
- Spill response/Cleanup:** Wear appropriate protective equipment to collect spillage with an absorbent material. Flush area with water until foaming ceases, using caution as area may be slippery. Prevent discharge of concentrate into waterways. Obtain prior approval before discharge into sewer treatment systems. Disposal must be in accordance with federal, state or provincial, and local regulations.
- Prohibited materials:** None.

SECTION 7 - HANDLING AND STORAGE

- Safe handling procedures:** Product is for industrial and municipal fire department use only. Consult product literature for appropriate handling during fires.
- Storage requirements:** Store at 25°F - 120°F (-4°C - 49°C).
- Incompatible materials:** As with all aqueous solutions, ALCOSEAL should not be put in contact with any materials which react violently with water.
- Special packaging materials:** Use original container or store in stainless steel, fibreglass or bitumen-lined tanks.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering controls:	Provide adequate levels of ventilation to prevent a build-up of vapours from the product.
Respiratory protection:	Not normally required under normal conditions of use. If vapours reach irritating levels, wear a NIOSH-approved respirator equipped with organic vapour cartridges.
Protective gloves:	Wear impervious gloves of an approved material, for example Neoprene.
Eye protection:	Wear safety glasses, chemical goggles or a face shield of an approved type.
Other protective equipment:	Body-covering clothing is recommended.
Permissible exposure levels:	See Section 2, Hazardous Ingredients.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical form, color and odor:	Dark brown viscous liquid, with an organic odor.
Odor threshold:	Not available.
pH @ 68°F (20°C):	6.5 - 7.5
Boiling point:	212°F (100°C)
Melting/freezing point:	19°F (-7°C)
Vapour pressure:	Not available.
Solubility in water:	100%
Coefficient of oil/water distribution:	Not available.
Specific gravity (water = 1):	1.09
Vapour density:	Not available
Volatile organic compounds (VOC's):	Less than 20%
Evaporation rate:	Not available

SECTION 10 - REACTIVITY AND STABILITY DATA

Stability and reactivity:	Stable. Hazardous polymerization will not occur.
Conditions to avoid:	None known.
Materials to avoid:	Contact with chemicals that react violently on contact with water, such as sodium metal.
Hazardous decomposition products:	None known.

SECTION 11 - TOXICOLOGICAL INFORMATION/HEALTH EFFECTS

LD₅₀:	Not available for product.
LC₅₀:	Not available for product.
Routes of exposure:	Lungs, skin, eyes
Carcinogenicity:	No ingredient classed as carcinogenic by OSHA, IARC, ACGIH or NTP
Teratogenicity, mutagenicity, other reproductive effects:	None known.
Sensitization to material:	Product is not known to cause allergies.
Conditions aggravated by exposure:	None known.
Synergistic materials:	None known.

SECTION 12 - ECOLOGICAL INFORMATION

- Environmental effects:** Readily biodegradable. Product is expected to have a relatively low risk to the environment
- Important environmental characteristics:** None known.
- Chemical Oxygen Demand:** COD 0.29 g/g
- Biochemical Oxygen Demand:** 5 day BOD 0.078 g/g (27%)
15 day BOD 0.23 g/g (29%)
28 day BOD 0.27 g/g (92%)
- Aquatic toxicity:** LC₅₀ (Rainbow trout [*Ocorhynchus mykiss*], 3 hours): 8,500 ppm.
LC₅₀ (Rainbow trout [*Ocorhynchus mykiss*], 24 hours): 3,700 ppm.
LC₅₀ (Rainbow trout [*Ocorhynchus mykiss*], 72 hours): 3,300 ppm.
- EC₅₀ (Water flea [*Daphnia magna*], 24 hours): 10,700 ppm.
EC₅₀ (Water flea [*Daphnia magna*], 48 hours): 9,800 ppm.

SECTION 13 - WASTE DISPOSAL

- Handling for disposal:** Avoid contact with eyes and skin, and excessive inhalation. Do not ingest. Rinse skin and eyes thoroughly in case of contact.
- Methods of disposal:** If in doubt about proper disposal, contact local, state or federal EPA (in USA) or municipal or provincial environmental authorities (in Canada).

SECTION 14 - TRANSPORT INFORMATION

- Transportation of Dangerous Goods (TDG) information:**
Shipping description: Not regulated as dangerous goods according to TDG Regulations.
- 49 CFR information:**
Shipping description: Not regulated as hazardous material according to 49 CFR Hazardous Materials Regulations.
- International Dangerous Goods information:**
IMO: Not regulated as dangerous goods according to IMDG Code.
ICAO: Not regulated as dangerous goods according to ICAO Technical Instructions or IATA Regulations.
- Other information:** None.

SECTION 15 - REGULATORY INFORMATION

- WHMIS information:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR. WHMIS classification is D2B, Toxic and Infectious Substances, Toxic Material.
- CEPA information:** All ingredients are listed on the DSL.
- SARA information:** This product does not contain any SARA Title III Section 313 chemicals.
- TSCA information:** All ingredients are listed in TSCA
- RCRA information:** Not a regulated waste
- CERCLA information:** Under U.S. EPA CERCLA regulations, releases to air, land or water which exceed the reportable quantity must be reported to the National Response Center (1-800-424-8802). There is no reportable quantity (RQ) for this product. There are no reportable materials in this product.

California Proposition 65 Information: To the best of our knowledge, this product does not contain any California Proposition 65 designated chemicals.

SECTION 16 - OTHER INFORMATION

Prepared for: Angus Fire
Telephone number: (610) 363-1400
Preparation date/revision number: October 16, 2013

Additional notes or references:

Abbreviations:

ACGIH: American Conference of Governmental Industrial Hygienists
CEPA: Canadian Environmental Protection Act
CERCLA: Comprehensive Environmental Response Compensation and Liability Act
DOT: Department of Transport
DSL: Domestic Substance List
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods Code
OSHA: Occupational Safety and Health Administration
N/Ap: Not applicable
N/Av: Not available
NIOSH: National Institute for Occupational Safety and Health
NTP: National Toxicology Program
RCRA: Resource Conservation and Recovery Act
TSCA: Toxic Substances Control Act
WHMIS: Workplace Hazardous Materials Information System

References:

1. Van Nostrand Reinhold, Dangerous Properties of Industrial Materials, Seventh Edition, N. Irving Sax.
2. Canadian Centre for Occupational Health and Safety. RTECS (Registry of Toxic Effects) and CHEMINFO databases.
3. ACGIH, Threshold Limit Values and Biological Exposure Indices for 1997.
4. International Agency for Research on Cancer Monographs.