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**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

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**Material Name:**

ARCTIC 3% AFFF FOAM CONCENTRATE

**Synonyms:**

ARCTIC 3% AFFF; ARCTIC 3%; AMEREX 3% AFFF Foam Concentrate; AMEREX 3% AFFF, AMEREX 3%, ARCTIC 3% DB AFFF FOAM CONCENTRATE, ARCTIC 3% DB AFFF; ARCTIC 3% DB

**Product Description:**

Mixture.

**Product Use:**

Fire Suppression Agent, Liquid Concentrate.

**Restrictions on Use:**

None known.

**Details of the supplier of the safety data sheet:**

The Solberg Company  
1520 Brookfield Avenue  
Green Bay, Wisconsin 54313 USA  
Phone: +1 920 593 9445  
Emergency Phone: +1 920 593 9445  
E-mail: sds@solbergfoam.com

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**SECTION 2 - HAZARDS IDENTIFICATION**

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**Classification in accordance with paragraph (d) of 29 CFR 1910.1200:**

Serious Eye Damage/Eye Irritation - Category 2A.

**GHS Label Elements:**

**Symbol(s)**



**Signal Word**

Warning.

**Hazard Statement(s)**

Causes serious eye irritation.

**Precautionary Statement(s)**



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**Prevention**

Wear eye protection/face protection.  
Wash thoroughly after handling.

**Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

**Storage**

None needed according to classification criteria.

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

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**SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

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CAS	Component Name	Percent
112-34-5	Diethylene glycol monobutyl ether	5-10
61789-40-0	N-Cocamidopropyl-N,N-dimethylglycine, hydroxide, inner salt	1-10

The chemical identity and/or percentage of composition is being withheld as a trade secret.

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**SECTION 4 - FIRST AID MEASURES**

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**Description of Necessary Measures:**

No special measures are necessary.

**Inhalation:**

If adverse effects occur, remove to uncontaminated area. Call a POISON CENTER or doctor if you feel unwell.

**Skin:**

Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

**Eyes:**

Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. If eye irritation persists: Get medical advice/attention.

**Ingestion:**

If swallowed, get medical attention. Do NOT induce vomiting.

**Most Important Symptoms/Effects:**

**Acute**

Causes serious eye irritation.

**Delayed**

No information on significant adverse effects.

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**SECTION 5 - FIRE FIGHTING MEASURES**

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**Extinguishing Media:**

**Suitable Extinguishing Media**

Not applicable as this is a fire suppression agent.

**Unsuitable Extinguishing Media**

None known.

**Special Hazards Arising from the Chemical**

Negligible fire hazard.

**Hazardous Combustion Products**

Under certain extreme conditions there may be release of toxic and/or corrosive gases: oxides of carbon, oxides of nitrogen, oxides of sulfur, hydrogen fluoride.

**Fire Fighting Measures**

Move container from fire area if it can be done without risk. Cool containers with water. Dike for later disposal. Avoid inhalation of material or combustion by-products.

**Special Protective Equipment and Precautions for Firefighters**

Wear protective clothing and equipment suitable for the surrounding fire.

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**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

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**Personal Precautions, Protective Equipment and Emergency Procedures:**

Wear personal protective clothing and equipment, see Section 8.

**Methods and Materials for Containment and Cleaning Up:**

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if safe to do so. Collect spilled material in appropriate container for disposal.

**Environmental Precautions:**

Prevent entry into waterways, sewers, basements, or confined areas. Dispose of waste in accordance with environmental legislation.

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**SECTION 7 - HANDLING AND STORAGE**

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**Precautions for Safe Handling:**

Wear protective eye/face protection. Wash thoroughly after handling.

**Conditions for Safe Storage, Including any Incompatibilities:**

None needed according to classification criteria.

Keep only in original packaging or containers approved by the manufacturer. Do not mix with other extinguishing agent unless otherwise approved by the manufacturer.

**Incompatible Materials:**

Electrically energized equipment. strong oxidizing agents, water-reactive materials.

**SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Component Exposure Limits:**

<b><u>Diethylene glycol monobutyl ether</u></b>	<b><u>112-34-5</u></b>
ACGIH:	10 ppm TWA inhalable fraction and vapor
Europe:	10 ppm TWA; 67.5 mg/m <sup>3</sup> TWA
	15 ppm STEL; 101.2 mg/m <sup>3</sup> STEL
<b><u>Triethanolamine</u></b>	<b><u>102-71-6</u></b>
ACGIH:	5 mg/m <sup>3</sup> TWA
<b><u>Ethyl alcohol</u></b>	<b><u>64-17-5</u></b>
ACGIH:	1000 ppm STEL
NIOSH:	1000 ppm TWA; 1900 mg/m <sup>3</sup> TWA
	3300 ppm IDLH (10% LEL)
OSHA (US):	1000 ppm TWA; 1900 mg/m <sup>3</sup> TWA
Mexico:	1000 ppm TWA LMPE-PPT; 1900 mg/m <sup>3</sup> TWA LMPE-PPT

**EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance Measures**

There are no biological limit values for any of this product's components.

**ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**

There are no biological limit values for any of this product's components.

**Engineering Controls**

Ensure compliance with applicable exposure limits. If necessary, use appropriate local exhaust ventilation to keep exposures below the regulated limits.

**Individual Protection Measures, such as Personal Protective Equipment:**

**Eye/face protection**

Wear splash resistant safety goggles.

**Skin Protection**

Wear suitable protective clothing such as coveralls or long sleeve shirt and pants.

**Respiratory Protection**

Respiratory protection is not required under normal conditions of use.

**Glove Recommendations**

Wear suitable gloves: nitrile, latex, rubber gloves.

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**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

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<b>Appearance</b>	Clear light yellow liquid	<b>Physical State</b>	Liquid
<b>Odor</b>	Mild	<b>Color</b>	Clear to light yellow
<b>Odor Threshold</b>	Not available	<b>pH</b>	7 - 8.5
<b>Melting Point</b>	Not available	<b>Boiling Point</b>	Not available
<b>Freezing point</b>	-2 °C	<b>Evaporation Rate</b>	Not available
<b>Boiling Point Range</b>	Not available	<b>Flammability (solid, gas)</b>	Not available
<b>Autoignition</b>	Not available	<b>Flash Point</b>	Does not flash
<b>Lower Explosive Limit</b>	Not applicable	<b>Decomposition</b>	Not available
<b>Upper Explosive Limit</b>	Not applicable	<b>Vapor Pressure</b>	2.4 kPa at 20 °c
<b>Vapor Density (air=1)</b>	Not available	<b>Specific Gravity (water=1)</b>	1 - 1.02
<b>Water Solubility</b>	complete	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	Not available	<b>Solubility (Other)</b>	Not available
<b>Density</b>	Not available	<b>Molecular Weight</b>	Not available

**Other Information:**

No information is available.

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**SECTION 10 - STABILITY AND REACTIVITY**

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**Reactivity:**

No hazardous reaction when handled and stored according to provisions.

**Chemical Stability:**

Stable under normal conditions of use.

**Conditions to Avoid:**

None known.

**Incompatible Materials:**

Electrically energized equipment, strong oxidizing agents, water-reactive materials.

**Hazardous decomposition products:**

None known.

**Thermal decomposition products:**

Under certain extreme conditions there may be release of toxic and/or corrosive gases: oxides of carbon, oxides of sulfur, oxides of nitrogen, hydrogen fluoride.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

**Acute and Chronic Toxicity:**

**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

**Diethylene glycol monobutyl ether (112-34-5)**

Oral LD50 Rat 5660 mg/kg

Dermal LD50 Rabbit 2700 mg/kg

**Water (7732-18-5)**

Oral LD50 Rat >90 mL/kg

**Triethanolamine (102-71-6)**

Oral LD50 Rat 4190 mg/kg

Dermal LD50 Rabbit >20 mL/kg

**N-Cocamidopropyl-N,N-dimethylglycine, hydroxide, inner salt (61789-40-0)**

Oral LD50 Rat 4900 mg/kg

**1,2-Propylene glycol (57-55-6)**

Oral LD50 Rat 20 g/kg

Dermal LD50 Rabbit 20800 mg/kg

**Ethyl alcohol (64-17-5)**

Oral LD50 Rat 7060 mg/kg

Inhalation LC50 Rat 124.7 mg/L 4 h

**Immediate Effects**

May cause eye irritation. Causes mild skin irritation.

**Delayed Effects**

No information available for the product.

**Irritation/Corrosivity Data**

Causes serious eye irritation.

**Respiratory Sensitization**

No information available for the product.

**Dermal Sensitization**

No information available for the product.

**Component Carcinogenicity**

<b><u>Triethanolamine</u></b>	<b><u>102-71-6</u></b>
IARC:	Monograph 77 [2000] (Group 3 (not classifiable))
<b><u>Ethyl alcohol</u></b>	<b><u>64-17-5</u></b>
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
NTP:	Known Human Carcinogen (related to Alcoholic beverages)
DFG:	Category 5 (low carcinogenic potency)
OSHA:	Present



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**Germ Cell Mutagenicity**

No information available for the product.

**Tumorigenic Data**

No information available for the product.

**Reproductive Toxicity**

No information available for the product.

**Specific Target Organ Toxicity - Single Exposure**

No information available for the product.

**Specific Target Organ Toxicity - Repeated Exposure**

No information available for the product.

**Aspiration hazard**

No information available for the product.

**Medical Conditions Aggravated by Exposure**

No information available for the product.

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**SECTION 12 - ECOLOGICAL INFORMATION**

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**Component Analysis - Aquatic Toxicity**

<b><u>Diethylene glycol monobutyl ether</u></b>	<b><u>112-34-5</u></b>
Fish:	LC50 96 h Lepomis macrochirus 1300 mg/L [static]
Algae:	EC50 96 h Desmodesmus subspicatus >100 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna >100 mg/L IUCLID
<b><u>Triethanolamine</u></b>	<b><u>102-71-6</u></b>
Fish:	LC50 96 h Pimephales promelas 10600 - 13000 mg/L [flow-through]; LC50 96 h Pimephales promelas >1000 mg/L [static]; LC50 96 h Lepomis macrochirus 450 - 1000 mg/L [static]
Algae:	EC50 72 h Desmodesmus subspicatus 216 mg/L IUCLID; EC50 96 h Desmodesmus subspicatus 169 mg/L IUCLID
<b><u>N-Cocamidopropyl-N,N-dimethylglycine, hydroxide, inner salt</u></b>	<b><u>61789-40-0</u></b>
Fish:	LC50 96 h Brachydanio rerio 2 mg/L [semi-static]
Invertebrate:	EC50 48 h Daphnia magna 6.5 mg/L IUCLID
<b><u>1,2-Propylene glycol</u></b>	<b><u>57-55-6</u></b>
Fish:	LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 -



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	47 mL/L [static]; LC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L
Algae:	EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna >1000 mg/L [static] EPA
<b>Ethyl alcohol</b>	<b>64-17-5</b>
Fish:	LC50 96 h Oncorhynchus mykiss 12 - 16 mL/L [static]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Pimephales promelas 13400 - 15100 mg/L [flow-through]
Invertebrate:	LC50 48 h Daphnia magna 9268 - 14221 mg/L IUCLID; EC50 48 h Daphnia magna 2 mg/L [static] EPA

**Persistence and Degradability**

No information available for the product.

**Bioaccumulative Potential**

No information available for the product.

**Mobility**

No information available for the product.

**Other Toxicity**

No additional information is available.

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**SECTION 13 - DISPOSAL CONSIDERATIONS**

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**Disposal Methods:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

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**SECTION 14 - TRANSPORT INFORMATION**

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**US DOT Information:**

**UN/NA #:** Not regulated as dangerous goods.

**IATA Information:**

**UN#:** Not regulated as dangerous goods.

**IMDG Information:**

**UN#:** Not regulated as dangerous goods.

**TDG Information:**

**UN#:** Not regulated as dangerous goods.





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**SECTION 15 - REGULATORY INFORMATION**

**U.S. Federal Regulations:**

<b>Diethylene glycol monobutyl ether</b>	<b><u>112-34-5</u></b>
SARA 313:	1 % de minimis concentration (applies to R-(OCH <sub>2</sub> CH <sub>2</sub> ) <sub>n</sub> -OR', where n = 1, 2, or 3, R=Alkyl C7 or less, or R = Phenyl or Alkyl substituted phenyl, R' = H or Alkyl C7 or less, or OR' consisting of Carboxylic acid ester, Sulfate, Phosphate, Nitrate, or Sulfonate, Chemical Category N230) (related to Glycol ethers)

**U.S. State Regulations:**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Diethylene glycol monobutyl ether	112-34-5	No	No	No	Yes	Yes
Water	7732-18-5	No	No	No	No	Yes
Triethanolamine	102-71-6	No	Yes	Yes	Yes	Yes
1,2-Propylene glycol	57-55-6	No	No	Yes	Yes	Yes
Ethyl alcohol	64-17-5	Yes	Yes	Yes	Yes	Yes

**The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986**

**(Proposition 65):** This product contains a chemical known to the state of California to cause cancer and/or reproductive/developmental effects.

<b><u>Ethyl alcohol</u></b>	<b><u>64-17-5</u></b>
Carc:	carcinogen , 4/29/2011 (in alcoholic beverages)
Repro/Dev. Tox	developmental toxicity , 10/1/1987 (in alcoholic beverages)

**Canadian WHMIS Ingredient Disclosure List (IDL):**

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL.

<b><u>Diethylene glycol monobutyl ether</u></b>	<b><u>112-34-5</u></b>
	1 %
<b><u>Triethanolamine</u></b>	<b><u>102-71-6</u></b>
	1 %
<b><u>1,2-Propylene glycol</u></b>	<b><u>57-55-6</u></b>



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	1 %
<b>Ethyl alcohol</b>	<b>64-17-5</b>
	0.1 %

**Component Analysis – Inventory:**

Diethylene glycol monobutyl ether (112-34-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes

Water (7732-18-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes

Triethanolamine (102-71-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes

N-Cocamidopropyl-N,N-dimethylglycine, hydroxide, inner salt (61789-40-0)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	No	Yes

1,2-Propylene glycol (57-55-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes

Ethyl alcohol (64-17-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes

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**SECTION 16 - OTHER INFORMATION**

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**Key / Legend:**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO -



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International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

**Other Information:**

**Disclaimer:**

Safety data sheet is for concentrate as received NOT for end-use solution.