SAFETY DATA SHEET
Universal Ultra AR-AFFF Concentrate
(Fire Extinguishing Agent)

1. IDENTIFICATION

Product Name
Universal Ultra AR-AFFF Concentrate
(Fire Extinguishing Agent)

Other Names
Alcohol Resistant Aqueous Film Forming Foam

Recommended use of the chemical and restrictions on use

Identified uses
Fire Extinguishing Agent

Restrictions on use
Do not use on electrically energized equipment. Consult applicable fire protection codes.

Company Identification
Badger Fire Protection
8767 Seminole Trail, Suite 202
Ruckersville, VA 22968
USA

Customer Information Number
(434)-964-3200

Emergency Telephone Number
(800) 424-9300
(703) 527-3887 (International)

Issue Date
November 23, 2016

Supersedes Date
October 1, 2015

Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2. HAZARD IDENTIFICATION

Hazard Classification
Serious eye damage/eye irritation: Category 2A

Label Elements
Hazard Symbols

Signal Word: Warning

Hazard Statements
Causes serious eye irritation.

Precautionary Statements
Prevention
Wash hands thoroughly after handling.
Wear eye protection/face protection.

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
2. HAZARD IDENTIFICATION

Disposal
None

Other Hazards
Possible electrocution hazard if used on electrically energized equipment.

Specific Concentration Limits
The values listed below represent the percentages of ingredients of unknown toxicity.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>Concentration</th>
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</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>90 - 99%</td>
</tr>
<tr>
<td>Synthetic detergent</td>
<td>NA</td>
<td>1 - 5%</td>
</tr>
<tr>
<td>(2-Methoxymethyleneoxy)Propanol</td>
<td>34590-94-8</td>
<td>1 - 5%</td>
</tr>
</tbody>
</table>

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

4. FIRST- AID MEASURES

Description of necessary first-aid measures

Eyes
Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin
Wash skin thoroughly with soap and water. Obtain medical attention if irritation persists.

Ingestion
Dilute by drinking large quantities of water and obtain medical attention.

Inhalation
Move victim to fresh air. Obtain medical attention immediately for any breathing difficulty.

Most important symptoms/effects, acute and delayed
Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

Notes to Physicians
Treat symptomatically.
5. **FIRE - FIGHTING MEASURES**

**Suitable Extinguishing Media**
This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a fire. Use extinguishing agent appropriate to other materials involved.

**Specific hazards arising from the chemical**
None known.

**Special Protective Actions for Fire-Fighters**
Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. **ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**
Wear appropriate protective clothing. Prevent skin and eye contact.

**Environmental Precautions**
Prevent large quantities of the material from entering drains or watercourses.

**Methods and materials for containment and cleaning up**
Contain and absorb using appropriate inert material and transfer into suitable containers for recovery or disposal.

7. **HANDLING AND STORAGE**

**Precautions for safe handling**
Wear appropriate protective clothing. Prevent skin and eye contact.

**Conditions for safe storage**
Store containers away from high heat sources. Storage area should be: - cool - dry - well ventilated - under cover - out of direct sunlight

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**
Exposure limits are listed below, if they exist.

**[(2-Methoxymethylethoxy)Propanol]**
ACGIH: TLV 100 ppm 8h TWA. 150 ppm STEL.
Skin Designation: air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required
OSHA: PEL 100 ppm (600 mg/m³) Limit applies to skin.

**Appropriate engineering controls**
Use with adequate ventilation. There should be local procedures for the selection, training, inspection and maintenance of this equipment. When used in large volumes, use local exhaust ventilation.
8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Individual protection measures**

**Respiratory Protection**

Respiratory protection not normally required.

**Skin Protection**

Gloves

**Eye/Face Protection**

Chemical goggles or safety glasses with side shields.

**Body Protection**

Normal work wear.

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9. **PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Physical State</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Viscous liquid</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

**Odor**

Mild

**Odor Threshold**

No data available

**pH**

8.5

**Specific Gravity**

1.015 @ 25°C

**Boiling Range/Point (°C/F)**

No data available

**Melting Point (°C/F)**

No data available

**Flash Point (PMCC) (°C/F)**

Not flammable

**Vapor Pressure**

No data available

**Evaporation Rate (BuAc=1)**

<1

**Solubility in Water**

Soluble

**Vapor Density (Air = 1)**

Not applicable

**VOC (g/l)**

None

**VOC (%)**

None

**Partition coefficient (n-octanol/water)**

No data available

**Viscosity**

No data available

**Auto-Ignition Temperature**

No data available

**Decomposition Temperature**

No data available

**Upper explosive limit**

Not applicable

**Lower explosive limit**

Not applicable

**Flammability (solid, gas)**

Not applicable

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10. **STABILITY AND REACTIVITY**

**Reactivity**

No data available

**Chemical Stability**

Stable under normal conditions.

**Possibility of hazardous reactions**

Hazardous polymerization will not occur.
10. STABILITY AND REACTIVITY

Conditions to Avoid
Exposure to direct sunlight - contact with incompatible materials

Incompatible Materials
Water reactive materials

Hazardous Decomposition Products
Oxides of carbon

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Available data indicates this product is not expected to be acutely toxic.
Synthetic detergent:
LD50 Oral rat >5000 mg/kg

Specific Target Organ Toxicity (STOT) – single exposure
Available data indicates this product is not expected to cause target organ effects after a single exposure.

Specific Target Organ Toxicity (STOT) – repeat exposure
Available data indicates this product is not expected to cause target organ effects after repeated exposure.

Serious Eye damage/Irritation
Synthetic detergent: A 50% solution was found to be severely irritating to eyes in a rabbit study.

Skin Corrosion/Irritation
Synthetic detergent: A 50% solution was found to be non-irritating to skin a rabbit study.

Respiratory or Skin Sensitization
No data available.

Carcinogenicity
Not considered carcinogenic by NTP, IARC, and OSHA.

Germ Cell Mutagenicity
Available data indicates this product is not expected to be mutagenic.

Reproductive Toxicity
Available data indicates this product is not expected to cause reproductive toxicity or birth defects.

Aspiration Hazard
Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Synthetic detergent
LC50 Fish > 1 – 10 mg/l (based on similar substance)
EC0 Microorganisms >100 mg/l (based on similar substance)
12. ECOLOGICAL INFORMATION

Mobility in soil
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bioaccumulative Potential
No relevant studies identified.

Other adverse effects
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the pressurized container. If spilled, expellant will vaporize to the atmosphere.

14. TRANSPORT INFORMATION

Safety Data Sheet information is intended to address a specific material and not various forms or states of containment.

Special Precautions for Shipping:
Individuals must be certified as Hazardous Material Shipper for all transportation modes.


DOT CFR 172.101 Data
Not Regulated
UN Proper Shipping Name
Not Regulated
UN Class
None.
UN Number
None.
UN Packaging Group
None.
Classification for AIR
Consult current IATA Regulations prior to shipping by air.
Classification for Water
Consult current IMDG Regulations prior to shipping by water.

This section is believed to be accurate at the time of preparation. It is not intended to be a complete statement or summary of the applicable laws, rules, or hazardous material regulations, and is subject to change. Users have the responsibility to confirm compliance with all laws, rules, and hazardous material regulations in effect at the time of shipping.

15. REGULATORY INFORMATION

United States TSCA Inventory
This product contains an ingredient that has not been verified for listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.
15. REGULATORY INFORMATION

Canada DSL Inventory
This product contains ingredients that are not listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL).

SARA Title III Sect. 311/312 Categorization
Immediate (Acute) Health Hazard

SARA Title III Sect. 313
This product does not contain any chemicals that are listed in Section 313 at or above de minimis concentrations.

16. OTHER INFORMATION

NFPA Ratings
NFPA Code for Health - 1
NFPA Code for Flammability - 0
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards - None

HMIS Ratings
HMIS Code for Health - 1
HMIS Code for Flammability - 0
HMIS Code for Physical Hazard - 0
HMIS Code for Personal Protection - See Section 8
*Chronic

Legend
ACGIH: American Conference of Governmental Industrial Hygienists
CAS#: Chemical Abstracts Service Number
EC50: Effect Concentration 50%
IARC: International Agency for Research on Cancer
LC50: Lethal Concentration 50%
LD50: Lethal Dose 50%
N/A: Denotes no applicable information found or available
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value
TSCA: Toxic Substance Control Act

Revision Date: November 23, 2016
Replaces: October 1, 2015
Changes made: Update to company address.

Information Source and References
This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

Prepared By: EnviroNet LLC.
16. OTHER INFORMATION

The information and recommendations presented in this SDS are based on sources believed to be accurate. Badger Fire Protection assumes no liability for the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of the material for their particular purposes. In particular, we make NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, with respect to such information, and we assume no liability resulting from its use. Users should ensure that any use or disposal of the material is in accordance with applicable Federal, State, and local laws and regulations.