1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

Product Name: Commercial ABC Dry Chemical (Fire Extinguishing Agent)
Other Trade Names: Multi-Purpose, Ammonium Phosphate, Monoammonium Phosphate
Product Description: Fire Extinguishing Agent
Manufacturer/Supplier: Badger Fire Protection
Address: 944 Glenwood Station Lane, Suite 303
          Charlottesville, VA 22901
          USA
Phone Number: (434)-964-3200
Chemtrec Number: (800) 424-9300
(for emergencies only) (703) 527-3887 (International)
Revision Date: February 9, 2012
MSDS Date: February 9, 2009

Safety Data Sheet according to EC directive 2001/59/EC and OSHA's Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

EU Main Hazards:
Non Hazardous Powder

Routes of Entry:
Eye contact - Inhalation - Skin contact

Carcinogenic Status:
See Section 11 - Toxicity

Target Organs:
Respiratory System - Skin - Eye

Health Effects - Eyes:
Contact for short periods of time may cause irritation.

Health Effects - Skin:
Contact may cause mild irritation.

Health Effects - Ingestion:
Ingestion is not an expected route of exposure.

Health Effects - Inhalation:
May irritate the respiratory tract. May cause transient cough and shortness of breath.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
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<tbody>
<tr>
<td>Monoammonium Phosphate</td>
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<td>Mica</td>
<td>12001-26-2</td>
<td>1 - 4%</td>
<td>None</td>
<td>None</td>
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</table>

Revision Date: February 9, 2012
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
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<tr>
<td>Dye</td>
<td>NA</td>
<td>&lt;0.1%</td>
<td>None</td>
<td>None</td>
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</table>

4. 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 affected area 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.

Advice to Physicians
Treat symptomatically.

5. FIRE - FIGHTING MEASURES

Extinguishing Media
This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep pressurized extinguishers and surroundings cool with water spray as they may rupture or burst in the heat of a fire.

Unusual Fire and Explosion Hazards
Pressurized containers may explode in heat of fire.

Protective Equipment for Fire-Fighting
Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Sweep up or vacuum. Prevent skin and eye contact. Wear appropriate protective equipment.

7. HANDLING AND STORAGE

Pressurized extinguishers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll extinguishers. Do not drop extinguishers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the extinguisher or plastic container. Store pressurized extinguishers and plastic 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

Occupational Exposure Standards
Occupational exposure limits are listed below, if they exist.

Mica
ACGIH TLV: 3 mg/m³ TWA, measured as respirable fraction of the aerosol.
OSHA PEL: 20 mppcf, <1% crystalline silica

Nuisance Dust Limit
OSHA PEL: 50 mppcf or 15 mg/m³ TWA, total dust
15 mppcf or 5 mg/m³ TWA, respirable fraction

Engineering Control Measures
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.

Respiratory Protection
Not normally required. Use dust mask where dustiness is prevalent, or TLV is exceeded.

Hand Protection
Not normally needed when used as a portable fire extinguisher. Use gloves if irritation occurs.

Eye Protection
Chemical goggles or safety glasses with side shields.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Powder</td>
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<td>Color</td>
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<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not Flammable</td>
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<tr>
<td>Solubility in Water</td>
<td>Not applicable</td>
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<tr>
<td>Vapor Density (Air = 1)</td>
<td>Heavier than air.</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
Heat - High temperatures - Exposure to direct sunlight

Materials to Avoid
Strong oxidizing agents - strong acids - sodium hypochlorite

Hazardous Polymerization
Will not occur.
10. STABILITY AND REACTIVITY

Hazardous Decomposition Products
Oxides of carbon - ammonia - oxides of phosphorus - nitrogen oxides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Low order of acute toxicity.

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Mica and clay may contain small quantities of quartz (crystalline silica) as an impurity. Prolonged exposure to respirable crystalline silica dust at concentrations exceeding the occupational exposure limits may increase the risk of developing a disabling lung disease known as silicosis. IARC found limited evidence for pulmonary carcinogenicity of crystalline silica in humans.

Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bio-accumulation
No relevant studies identified.

Ecotoxicity
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. No harm to the environment is expected from this preparation.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data  Not regulated
UN Proper Shipping Name  Not regulated
UN Class  None
UN Number  None
UN Packaging Group  None

15. REGULATORY INFORMATION

**EU Label Information**
Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments (2001/60/EC and 2006/8/EC).

**EU Hazard Symbol and Indication of Danger.**
This preparation is not classified as dangerous.

**R phrases**
None

**S phrases**
None.

**US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS**

**TSCA Listing**
This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

**EINECS Listing**
All ingredients in this product have not been verified for listing on the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of New Chemical Substances (ELINCS).

**DSL/NDSL (Canadian) Listing**
All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

**WHMIS Classification**
D2B
This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

**MA Right To Know Law**
All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimis concentration include: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) <2% - Ammonium Sulfate (7783-20-2) 30 - 40%

**PA Right To Know Law**
This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) <2% - Ammonium Sulfate (7783-20-2) 30 - 40%

**NJ Right To Know Law**
This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) <2%

**California Proposition 65**
This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

**SARA Title III Sect. 302 (EHS)**
This product does not contain any chemicals subject to SARA Title III Section 302.

**SARA Title III Sect. 304**
This product does not contain any chemicals subject to SARA Title III Section 304.
15. REGULATORY INFORMATION

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 Reactivity - 0
- HMIS Code for Personal Protection - See Section 8

Abbreviations
- N/A: Denotes no applicable information found or available
- CAS#: Chemical Abstracts Service Number
- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- STEL: Short Term Exposure Limit
- NTP: National Toxicology Program
- IARC: International Agency for Research on Cancer
- R: Risk
- S: Safety

Prepared By: EnviroNet LLC.

The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Badger Fire Protection assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.
1. **IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING**

   - **Product Name**: Regular Dry Chemical (Fire Extinguishing Agent)
   - **Other Trade Names**: BC, SDC, Sodium Bicarbonate
   - **Product Description**: Fire Extinguishing Agent
   - **Manufacturer/Supplier**: Badger Fire Protection
   - **Address**: 944 Glenwood Station Lane, Suite 303, Charlottesville, VA 22901, USA
   - **Phone Number**: (434)-964-3200
   - **Chemtrec Number**: (800) 424-9300
     (for emergencies only) (703) 527-3887 (International)
   - **Revision Date**: February 9, 2012
   - **MSDS Date**: January 15, 2007

   *Safety Data Sheet according to EC directive 2001/59/EC and OSHA’s Hazcom Standard (29 CFR 1910.1200)*

2. **HAZARDS IDENTIFICATION**

   **EU Main Hazards**
   - Non Hazardous Powder

   **Routes of Entry**
   - Eye contact  - Inhalation  - Skin contact

   **Carcinogenic Status**
   - See Section 11 - Toxicity

   **Target Organs**
   - Respiratory System  - Skin  - Eye

   **Health Effects - Eyes**
   - Contact for short periods of time may cause irritation.

   **Health Effects - Skin**
   - Contact may cause mild irritation.

   **Health Effects - Ingestion**
   - Ingestion is not an expected route of exposure.

   **Health Effects - Inhalation**
   - May irritate the respiratory tract. May cause transient cough and shortness of breath.

3. **COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
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<td>Calcium Carbonate</td>
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<td>Mica</td>
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<td>1 - 4%</td>
<td>None</td>
<td>None</td>
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<tr>
<td>Clay</td>
<td>8031-18-3</td>
<td>&lt;2%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Amorphous Silica</td>
<td>7631-86-9</td>
<td>&lt;2%</td>
<td>None</td>
<td>None</td>
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<tr>
<td></td>
<td>EC#2315454</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Revision Date: February 9, 2012*
4. 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 affected area 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.

Advice to Physicians
Treat symptomatically.

5. FIRE - FIGHTING MEASURES

Extinguishing Media
This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep pressurized extinguishers and surroundings cool with water spray as they may rupture or burst in the heat of a fire.

Unusual Fire and Explosion Hazards
Pressurized containers may explode in heat of fire.

Protective Equipment for Fire-Fighting
Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Sweep up or vacuum. Prevent skin and eye contact. Wear appropriate protective equipment.

7. HANDLING AND STORAGE

Pressurized extinguishers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll extinguishers. Do not drop extinguishers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the extinguisher or plastic container. Store pressurized extinguishers and plastic 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

Occupational Exposure Standards
Occupational exposure limits are listed below, if they exist.

Mica
ACGIH TLV: 3 mg/m3 TWA, measured as respirable fraction of the aerosol.
OSHA PEL: 20 mppcf, <1% crystalline silica

Calcium Carbonate
OSHA PEL: 15 mg/m3 TWA, total dust
5 mg/m3 TWA ,respirable fraction
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Nuisance Dust Limit
OSHA PEL: 50 mppcf or 15 mg/m3 TWA, total dust
15 mppcf or 5 mg/m3 TWA, respirable fraction

Engineering Control Measures
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.

Respiratory Protection
Not normally required. Use dust mask where dustiness is prevalent, or TLV is exceeded.

Hand Protection
Not normally needed when used as a portable fire extinguisher. Use gloves if irritation occurs.

Eye Protection
Chemical goggles or safety glasses with side shields.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Physical State</td>
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<td>Color</td>
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<td>Vapor Density (Air = 1)</td>
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<td>Vapor Pressure</td>
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</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
- Heat  - High temperatures  - Exposure to direct sunlight

Materials to Avoid
- Strong oxidizing agents  - strong acids

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
- oxides of carbon
11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Low order of acute toxicity.

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Calcium carbonate, mica, and clay may contain small quantities of quartz (crystalline silica) as an impurity. Prolonged exposure to respirable crystalline silica dust at concentrations exceeding the occupational exposure limits may increase the risk of developing a disabling lung disease known as silicosis. IARC found limited evidence for pulmonary carcinogenicity of crystalline silica in humans.

Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bio-accumulation
No relevant studies identified.

Ecotoxicity
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. No harm to the environment is expected from this preparation.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data Not regulated
UN Proper Shipping Name Not regulated
UN Class None
UN Number None
UN Packaging Group None

15. REGULATORY INFORMATION

EU Label Information
Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)
EU Hazard Symbol and Indication of Danger.
This preparation is not classified as dangerous.

R phrases
None

S phrases
None.

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS

TSCA Listing
This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

EINECS Listing
All ingredients in this product have not been verified for listing on the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of New Chemical Substances (ELINCS).

DSL/NDSL (Canadian) Listing
All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

WHMIS Classification
D2B
This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

MA Right To Know Law
All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimus concentration include: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) <2% - Calcium Carbonate (471-34-1) 10-20%

PA Right To Know Law
This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) <2% - Calcium Carbonate (471-34-1) 10-20%

NJ Right To Know Law
This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) <2%

California Proposition 65
This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

SARA Title III Sect. 302 (EHS)
This product does not contain any chemicals subject to SARA Title III Section 302.

SARA Title III Sect. 304
This product does not contain any chemicals subject to SARA Title III Section 304.

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

SARA Title III Sect. 313
This product does not contain a chemical which is 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 Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations
N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
S: Safety

Prepared By: EnviroNet LLC.
The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Badger Fire Protection assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.
MATERIAL SAFETY DATA SHEET

Purple K Dry Chemical
(Fire Extinguishing Agent)

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Purple K Dry Chemical (Fire Extinguishing Agent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Trade Names</td>
<td>Potassium Bicarbonate, PK, PKP</td>
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<tr>
<td>Product Description</td>
<td>Fire Extinguishing Agent</td>
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<tr>
<td>Manufacturer/Supplier</td>
<td>Badger Fire Protection</td>
</tr>
<tr>
<td>Address</td>
<td>944 Glenwood Station Lane, Suite 303</td>
</tr>
<tr>
<td></td>
<td>Charlottesville, VA 22901 USA</td>
</tr>
<tr>
<td>Phone Number</td>
<td>(434)-964-3200</td>
</tr>
<tr>
<td>Chemtrec Number</td>
<td>(800) 424-9300</td>
</tr>
<tr>
<td>(for emergencies only)</td>
<td>(703) 527-3887 (International)</td>
</tr>
<tr>
<td>Revision Date:</td>
<td>February 9, 2012</td>
</tr>
<tr>
<td>MSDS Date:</td>
<td>January 15, 2007</td>
</tr>
</tbody>
</table>

Safety Data Sheet according to EC directive 2001/59/EC and OSHA's Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

| EU Main Hazards             | Non Hazardous Powder                           |
| Routes of Entry            | Eye contact - Inhalation - Skin contact         |
| Carcinogenic Status        | See Section 11 - Toxicity                      |
| Target Organs              | Respiratory System - Skin - Eye                |
| Health Effects - Eyes      | Contact for short periods of time may cause irritation. |
| Health Effects - Skin      | Contact may cause mild irritation.             |
| Health Effects - Ingestion | Ingestion is not an expected route of exposure.|
| Health Effects - Inhalation| May irritate the respiratory tract. May cause transient cough and shortness of breath. |

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
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<tbody>
<tr>
<td>Potassium Bicarbonate</td>
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<td>75 - 90%</td>
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<td>Calcium Carbonate</td>
<td>471-34-1</td>
<td>5 - 15%</td>
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</tr>
<tr>
<td></td>
<td>EC#2074399</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mica</td>
<td>12001-26-2</td>
<td>2 - 6%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Clay</td>
<td>8031-18-3</td>
<td>1 - 5%</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Revision Date: February 9, 2012
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amorphous Silica</td>
<td>7631-86-9</td>
<td>&lt;2%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>EC#2315454</td>
<td></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Dye</td>
<td>NA</td>
<td>&lt;1%</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

4. 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 affected area 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.

**Advice to Physicians**
Treat symptomatically.

5. FIRE - FIGHTING MEASURES

**Extinguishing Media**
This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep pressurized extinguishers and surroundings cool with water spray as they may rupture or burst in the heat of a fire.

**Unusual Fire and Explosion Hazards**
Pressurized containers may explode in heat of fire.

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

6. ACCIDENTAL RELEASE MEASURES

Sweep up or vacuum. Prevent skin and eye contact. Wear appropriate protective equipment.

7. HANDLING AND STORAGE

Pressurized extinguishers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll extinguishers. Do not drop extinguishers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the extinguisher or plastic container. Store pressurized extinguishers and plastic 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

Occupational Exposure Standards
Occupational exposure limits are listed below, if they exist.

Mica
ACGIH TLV: 3 mg/m$^3$ TWA, measured as respirable fraction of the aerosol.
OSHA PEL: 20 mppcf, <1% crystalline silica

Calcium Carbonate
OSHA PEL: 15 mg/m$^3$ TWA, total dust
5 mg/m$^3$ TWA, respirable fraction

Nuisance Dust Limit
OSHA PEL: 50 mppcf or 15 mg/m$^3$ TWA, total dust
15 mppcf or 5 mg/m$^3$ TWA, respirable fraction

Engineering Control Measures
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.

Respiratory Protection
Not normally required. Use dust mask where dustiness is prevalent, or TLV is exceeded.

Hand Protection
Not normally needed when used as a portable fire extinguisher. Use gloves if irritation occurs.

Eye Protection
Chemical goggles or safety glasses with side shields.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder
Color: Purple
Odor: Odorless
Specific Gravity: Not available
Boiling Range/Point (°C/F): Not applicable
Flash Point (PMCC) (°C/F): Not Flammable
Solubility in Water: Not applicable
Vapor Density (Air = 1): Heavier than air.
Vapor Pressure: Not applicable
Evaporation Rate: Not applicable

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
Heat - High temperatures  - Exposure to direct sunlight

Materials to Avoid
Strong oxidizing agents  - strong acids - NaK alloy - NH4H2PO4
10. STABILITY AND REACTIVITY

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
Oxides of carbon

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Low order of acute toxicity.

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Calcium carbonate, mica, and clay may contain small quantities of quartz (crystalline silica) as an impurity. Prolonged exposure to respirable crystalline silica dust at concentrations exceeding the occupational exposure limits may increase the risk of developing a disabling lung disease known as silicosis. IARC found limited evidence for pulmonary carcinogenicity of crystalline silica in humans.

Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bio-accumulation
No relevant studies identified.

Ecotoxicity
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. No harm to the environment is expected from this preparation.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data  Not regulated
UN Proper Shipping Name  Not regulated
UN Class  None
UN Number  None
UN Packaging Group  None
14. TRANSPORT INFORMATION


15. REGULATORY INFORMATION

EU Label Information
Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)
EU Hazard Symbol and Indication of Danger.
This preparation is not classified as dangerous.

R phrases
None

S phrases
None.

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS

TSCA Listing
This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

EINECS Listing
All ingredients in this product have not been verified for listing on the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of New Chemical Substances (ELINCS).

DSL/NDSL (Canadian) Listing
All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

WHMIS Classification
D2B
This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

MA Right To Know Law
All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimus concentration include: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) 0.2 -1.0% - Calcium Carbonate (471-34-1) 5-15%

PA Right To Know Law
This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - Mica (12001-26-2) 1-4%-Amorphous Silica (7631-86-9)0.2-1.0%-Calcium Carbonate (471-34-1)5-15%

NJ Right To Know Law
This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) 0.2 -1.0%

California Proposition 65
This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.
15. **REGULATORY INFORMATION**

**SARA Title III Sect. 302 (EHS)**
This product does not contain any chemicals subject to SARA Title III Section 302.

**SARA Title III Sect. 304**
This product does not contain any chemicals subject to SARA Title III Section 304.

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

**SARA Title III Sect. 313**
This product does not contain a chemical which is 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 Reactivity - 0
- HMIS Code for Personal Protection - See Section 8

**Abbreviations**
- N/A: Denotes no applicable information found or available
- CAS#: Chemical Abstracts Service Number
- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- STEL: Short Term Exposure Limit
- NTP: National Toxicology Program
- IARC: International Agency for Research on Cancer
- R: Risk
- S: Safety

**Prepared By:** EnviroNet LLC.

The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Badger Fire Protection assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Carbon Dioxide (Fire Extinguishing Agent and Expellant)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Trade Names</td>
<td>CO2</td>
</tr>
<tr>
<td>Product Description</td>
<td>Fire Extinguishing Agent and Expellant</td>
</tr>
<tr>
<td>Manufacturer/Supplier</td>
<td>Badger Fire Protection</td>
</tr>
<tr>
<td>Address</td>
<td>944 Glenwood Station Lane, Suite 303</td>
</tr>
<tr>
<td></td>
<td>Charlottesville, VA  22901 USA</td>
</tr>
<tr>
<td>Phone Number</td>
<td>(434)-964-3200</td>
</tr>
<tr>
<td>Chemtrec Number</td>
<td>(800) 424-9300</td>
</tr>
<tr>
<td>(for emergencies only)</td>
<td>(703) 527-3887 (International)</td>
</tr>
<tr>
<td>Revision Date:</td>
<td>February 9, 2012</td>
</tr>
<tr>
<td>MSDS Date:</td>
<td>January 15, 2007</td>
</tr>
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</table>

Safety Data Sheet according to EC directive 2001/59/EC and OSHA’s Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>EU Main Hazards</th>
<th>Non Flammable Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of Entry</td>
<td>- Eye contact  - Inhalation  - Skin contact</td>
</tr>
<tr>
<td>Carcinogenic Status</td>
<td>Not considered carcinogenic by NTP, IARC, and OSHA.</td>
</tr>
<tr>
<td>Target Organs</td>
<td>- Respiratory System  - Skin  - Eye – Cardiovascular System</td>
</tr>
<tr>
<td>Health Effects - Eyes</td>
<td>Direct contact with the cold gas or liquid can cause freezing of exposed tissues, with pain, redness, burns and corneal damage. Moisture in the air can react to form carbonic acid which causes eye irritation.</td>
</tr>
<tr>
<td>Health Effects - Skin</td>
<td>Direct contact with the cold gas or liquid can cause freezing of exposed tissues.</td>
</tr>
<tr>
<td>Health Effects - Ingestion</td>
<td>Ingestion is not a possible route of exposure.</td>
</tr>
<tr>
<td>Health Effects - Inhalation</td>
<td>Exposure to vapor at high concentrations have the following effects: - light headedness - dizziness - difficulty with breathing - drowsiness - nausea - mental confusion - increased blood pressure – increased respiratory rate - loss of consciousness which may prove fatal due to suffocation as it displaces oxygen. Individuals with pre-existing disease will be at increased risk.</td>
</tr>
</tbody>
</table>

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide</td>
<td>124-38-9</td>
<td>&gt;99.8</td>
<td>None</td>
<td>Non Flammable Gas</td>
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<tr>
<td></td>
<td>EC#204-696-9</td>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

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

Skin
Gently warm affected areas. Obtain medical attention if blistering occurs or redness persists.

Ingestion
Ingestion is not considered a potential route of exposure.

Inhalation
Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Advice to Physicians
In case of frostbite, place the frostbitten part in warm water. If warm water is not available or impractical to use, wrap the affected parts gently in blankets. DO NOT USE HOT WATER.

5. FIRE - FIGHTING MEASURES

Extinguishing Media
Carbon Dioxide is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep containers and surroundings cool with water spray as containers may rupture or burst in the heat of a fire.

Unusual Fire and Explosion Hazards
Containers may explode in heat of fire.

Protective Equipment for Fire-Fighting
Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Wear full protective clothing and self-contained breathing apparatus. Remove leaking cylinder to a safe place. Ventilate the area. Vapors can accumulate in low areas. Leaks inside confined spaces may cause suffocation as oxygen is displaced and should not be entered without a self-contained breathing apparatus.

7. HANDLING AND STORAGE

Cylinders should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike against each other. Never apply flame or localized heat directly to any part of the cylinder. Store away from sources of heat or ignition. Storage area should be: - cool - dry - well ventilated - under cover - out of direct sunlight

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards
Occupational exposure limits are listed below, if they exist.

Carbon Dioxide
ACGIH TLV: 5000 ppm (9000 mg/m3) STEL: 30,000 ppm (54,000 mg/m3)
OSHA PEL: 5000 ppm (9000 mg/m3)
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Control Measures
Use with adequate ventilation. There should be local procedures for the selection, training, inspection and maintenance of this equipment. When used in large volumes or odor becomes apparent, use local exhaust ventilation.

Respiratory Protection
Not normally required under conditions of use as a portable fire extinguisher. For other applications creating oxygen deficient atmospheres, use a self contained breathing apparatus, as an air purifying respirator will not provide protection.

Hand Protection
Wear rubber gloves. Avoid contact with skin.

Eye Protection
Chemical goggles or safety glasses with side shields. Avoid contact with eyes.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquefied gas under pressure</td>
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<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless to Slightly Acidic</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.522</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>-109.3°F</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not Flammable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>Heavier than air</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>838 psig @70°F and 1 atmosphere</td>
</tr>
<tr>
<td>Gas Density</td>
<td>0.1144 lb/ft³</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
Heat - high temperatures - exposure to direct sunlight

Materials to Avoid
Alkali or alkaline earth metal (ex. aluminum, zinc, etc.) - strong oxidizing agents

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
In contact with moisture will generate carbonic acid
11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Simple asphyxiant. LCLo (inhalation in humans): 90,000ppm/ 5 minutes.

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
Carbon dioxide occurs naturally in the atmosphere.

Persistence/Degradability
Carbon dioxide occurs naturally in the atmosphere.

Bio-accumulation
Carbon dioxide occurs naturally in the atmosphere.

Ecotoxicity
Aquatic Toxicity: 100-200 mg/l/no time specified/various organisms/fresh water
Waterfowl toxicity: 5-8%, no effect

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data Carbon Dioxide, 2.2, UN1013
UN Proper Shipping Name Carbon Dioxide
UN Class (2.2) Non-Flammable Gas
UN Number UN1013
UN Packaging Group Not applicable

15. REGULATORY INFORMATION

EU Label Information
Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)

EU Hazard Symbol and Indication of Danger.
Non Flammable Gas

R phrases
None
15. REGULATORY INFORMATION

S phrases
S9 Keep container in a well ventilated place.

<table>
<thead>
<tr>
<th>US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA Listing</td>
</tr>
<tr>
<td>This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.</td>
</tr>
<tr>
<td>EINECS Listing</td>
</tr>
<tr>
<td>All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of New Chemical Substances (ELINCS) or are exempt from listing.</td>
</tr>
<tr>
<td>DSL/NDSL (Canadian) Listing</td>
</tr>
<tr>
<td>All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.</td>
</tr>
<tr>
<td>WHMIS Classification</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.</td>
</tr>
<tr>
<td>MA Right To Know Law</td>
</tr>
<tr>
<td>All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimis concentration include: - carbon dioxide</td>
</tr>
<tr>
<td>PA Right To Know Law</td>
</tr>
<tr>
<td>This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - carbon dioxide</td>
</tr>
<tr>
<td>NJ Right To Know Law</td>
</tr>
<tr>
<td>This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - carbon dioxide</td>
</tr>
<tr>
<td>California Proposition 65</td>
</tr>
<tr>
<td>This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.</td>
</tr>
<tr>
<td>SARA Title III Sect. 302 (EHS)</td>
</tr>
<tr>
<td>This product does not contain any chemicals subject to SARA Title III Section 302.</td>
</tr>
<tr>
<td>SARA Title III Sect. 304</td>
</tr>
<tr>
<td>This product does not contain any chemicals subject to SARA Title III Section 304.</td>
</tr>
<tr>
<td>SARA Title III Sect. 311/312 Categorization</td>
</tr>
<tr>
<td>- Immediate (Acute) Health Hazard - Pressure Hazard</td>
</tr>
<tr>
<td>SARA Title III Sect. 313</td>
</tr>
<tr>
<td>This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.</td>
</tr>
</tbody>
</table>
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 Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations
N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
S: Safety
LCLo: Lethal concentration low

Prepared By: EnviroNet LLC.

The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user’s responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Badger Fire Protection assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

Product Name: Wet Chemical Solution (Portable Fire Extinguisher Agent)

Other Trade Names: AC-100, AC-250, Potassium Acetate, Class K

Product Description: Fire Extinguishing Agent

Manufacturer/Supplier: Badger Fire Protection

Address: 944 Glenwood Station Lane, Suite 303
Charlottesville, VA  22901
USA

Phone Number: (434)-964-3200

Chemtrec Number: (800) 424-9300
(for emergencies only)  (703) 527-3887 (International)

Revision Date: February 9, 2012

MSDS Date: January 15, 2007

Safety Data Sheet according to EC directive 2001/59/EC and OSHA's Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

EU Main Hazards
Non Hazardous Liquid

Routes of Entry
Eye contact - Inhalation - Skin contact

Carcinogenic Status
Not considered carcinogenic by NTP, IARC, and OSHA.

Target Organs
Respiratory System - Skin - Eye

Health Effects - Eyes
Contact for short periods of time may cause irritation.

Health Effects - Skin
Contact may cause mild irritation.

Health Effects - Ingestion
Ingestion is not an expected route of exposure.

Health Effects - Inhalation
May irritate the respiratory tract. May cause transient cough and shortness of breath.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Acetate</td>
<td>127-08-2</td>
<td>35-45%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>EC#2048222</td>
<td></td>
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<td>Water</td>
<td>7732-18-5</td>
<td>55-65%</td>
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<td></td>
<td>EC#2317912</td>
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</table>

Revision Date: February 9, 2012
4. **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 affected area 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.

**Advice to Physicians**
Treat symptomatically.

5. **FIRE - FIGHTING MEASURES**

**Extinguishing Media**
This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep pressurized extinguishers and surroundings cool with water spray as they may rupture or burst in the heat of a fire.

**Unusual Fire and Explosion Hazards**
Pressurized containers may explode in heat of fire.

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

6. **ACCIDENTAL RELEASE MEASURES**

Contain and absorb using appropriate inert material. Transfer into suitable containers for disposal. Prevent skin and eye contact. Wear appropriate protective equipment. Prevent large quantities of the material from entering drains or watercourses.

7. **HANDLING AND STORAGE**

Pressurized extinguishers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll extinguishers. Do not drop extinguishers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the extinguisher or plastic container. Store pressurized extinguishers and plastic 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**

**Occupational Exposure Standards**
Occupational exposure limits are listed below, if they exist.

**Potassium Acetate**
None
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Control Measures
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.

Respiratory Protection
Not normally required.

Hand Protection
Not normally needed when used as a portable fire extinguisher. Use gloves if irritation occurs.

Eye Protection
Chemical goggles or safety glasses with side shields.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Clear or blue</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.19 - 1.24</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>100/212</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not Flammable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>soluble</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
- Heat
- High temperatures
- Exposure to direct sunlight

Materials to Avoid
- Strong oxidizing agents

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
- oxides of carbon
- potassium

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Low order of acute toxicity.
11. TOXICOLOGICAL INFORMATION

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bio-accumulation
No relevant studies identified.

Ecotoxicity
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. No harm to the environment is expected from this preparation.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data Not regulated
UN Proper Shipping Name Not regulated
UN Class None
UN Number None
UN Packaging Group None

15. REGULATORY INFORMATION

EU Label Information
Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)

EU Hazard Symbol and Indication of Danger.
This preparation is not classified as dangerous.

R phrases
None

S phrases
None.
15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TSCA Listing</strong></td>
</tr>
<tr>
<td>This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.</td>
</tr>
<tr>
<td><strong>EINECS Listing</strong></td>
</tr>
<tr>
<td>All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS) or are exempt from listing.</td>
</tr>
<tr>
<td><strong>DSL/NDSL (Canadian) Listing</strong></td>
</tr>
<tr>
<td>All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.</td>
</tr>
<tr>
<td><strong>WHMIS Classification</strong></td>
</tr>
<tr>
<td>D2B</td>
</tr>
<tr>
<td>This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.</td>
</tr>
<tr>
<td><strong>MA Right To Know Law</strong></td>
</tr>
<tr>
<td>All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimus concentration include: none</td>
</tr>
<tr>
<td><strong>PA Right To Know Law</strong></td>
</tr>
<tr>
<td>This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - none</td>
</tr>
<tr>
<td><strong>NJ Right To Know Law</strong></td>
</tr>
<tr>
<td>This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - none</td>
</tr>
<tr>
<td><strong>California Proposition 65</strong></td>
</tr>
<tr>
<td>This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.</td>
</tr>
<tr>
<td><strong>SARA Title III Sect. 302 (EHS)</strong></td>
</tr>
<tr>
<td>This product does not contain any chemicals subject to SARA Title III Section 302.</td>
</tr>
<tr>
<td><strong>SARA Title III Sect. 304</strong></td>
</tr>
<tr>
<td>This product does not contain any chemicals subject to SARA Title III Section 304.</td>
</tr>
<tr>
<td><strong>SARA Title III Sect. 311/312 Categorization</strong></td>
</tr>
<tr>
<td>- Immediate (Acute) Health Hazard</td>
</tr>
<tr>
<td><strong>SARA Title III Sect. 313</strong></td>
</tr>
<tr>
<td>This product does not contain any chemicals that are listed in Section 313 at or above de minimis concentrations.</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFPA Code for Health - 1</td>
</tr>
<tr>
<td>NFPA Code for Flammability - 0</td>
</tr>
<tr>
<td>NFPA Code for Reactivity - 0</td>
</tr>
<tr>
<td>NFPA Code for Special Hazards - None</td>
</tr>
</tbody>
</table>
16. OTHER INFORMATION

HMIS Ratings
HMIS Code for Health - 1
HMIS Code for Flammability - 0
HMIS Code for Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations
N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
S: Safety

Prepared By: EnviroNet LLC.

The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Badger Fire Protection assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.
Section 1. Chemical product and company identification

Product Name: Super D Dry Powder Extinguishant
Synonym: Class D Powder
Manufacturer: AMEREX CORPORATION
Internet Address: www.amerex-fire.com
Address: 7595 Gadsden Highway
P.O. Box 81
Trussville, AL 35173-0081
Telephone: (205) 655-3271
Emergency Contacts: Chemtrec 1(800) 424-9300 or (703) 527–3887
Revised: August, 2011

Section 2. Hazard identification and emergency overview

Emergency overview: Off-white, fine solid powder, odorless.

Adverse health effects and symptoms: Moderate irritant to the respiratory system and eyes; mild irritant to the skin. Symptoms may include stinging of eyes and abraded skin, coughing, shortness of breath, and irritation of the lungs, eyes, and skin.

Exposure guidelines:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>DFG MAK *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium chloride</td>
<td>PNOC** Total dust, 15 mg/m³</td>
<td>PNOC Total dust, 10 mg/m³</td>
<td>PNOC Total dust, 4 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Respirable fraction, 5 mg/m³</td>
<td>Respirable fraction, 3 mg/m³</td>
<td>Respirable fraction, 1.5 mg/m³</td>
</tr>
<tr>
<td>Mica</td>
<td>20 mppcf***</td>
<td>3 mg/m³ respirable fraction</td>
<td>------</td>
</tr>
<tr>
<td>Fullers Earth</td>
<td>PNOC Total dust, 15 mg/m³</td>
<td>PNOC Total dust, 10 mg/m³</td>
<td>PNOC Total dust, 4 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Respirable fraction, 5 mg/m³</td>
<td>Respirable fraction, 3 mg/m³</td>
<td>Respirable fraction, 1.5 mg/m³</td>
</tr>
<tr>
<td>Mineralite (Zeolite)</td>
<td>80 mg/m³ % SiO₂</td>
<td>10 mg/m³</td>
<td>4 mg/m³</td>
</tr>
<tr>
<td>Magnesium stearate</td>
<td>PNOC Total dust, 15 mg/m³</td>
<td>PNOC Total dust, 10 mg/m³</td>
<td>PNOC Total dust, 4 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Respirable fraction, 5 mg/m³</td>
<td>Respirable fraction, 3 mg/m³</td>
<td>Respirable fraction, 1.5 mg/m³</td>
</tr>
<tr>
<td>Name/Compound</td>
<td>Weight %</td>
<td>CAS #</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Sodium chloride evaporated flour grade</td>
<td>87</td>
<td>7647-14-5</td>
<td></td>
</tr>
<tr>
<td>Fullers earth magnesium aluminum silicate</td>
<td>4.2</td>
<td>8031-18-3</td>
<td></td>
</tr>
<tr>
<td>Mica potassium aluminum silicate</td>
<td>4.2</td>
<td>12001-26-2</td>
<td></td>
</tr>
<tr>
<td>Zeolite, synthetic amorphous precipitated silica</td>
<td>2.1</td>
<td>112926-00-8</td>
<td></td>
</tr>
<tr>
<td>Silica, amorphous, fumed</td>
<td>&lt; 2</td>
<td>69012-64-2</td>
<td></td>
</tr>
<tr>
<td>Magnesium stearate octadecanoic acid, Mg salt</td>
<td>&lt; 1</td>
<td>557-04-0</td>
<td></td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

Eye Exposure: Irrigate eyes with water and repeat until pain free. Seek medical attention if irritation develops or if vision changes occur.

Skin Exposure: In case of contact, wash with plenty of soap and water. Seek medical attention if irritation develops.
Inhalation: If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if irritation develops or persists.

Ingestion: Not known to present an ingestion hazard.

Medical conditions possibly aggravated by exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema, or bronchitis. Skin contact may aggravate existing skin disease. Chronic overexposure may cause pneumoconiosis (“dusty lung” disease).

Section 5. Fire fighting measures

Extinguishing media: non combustible and non flammable – product is an extinguishing agent

Unusual fire/explosion hazards: none known

Insensitive to mechanical impact or static discharge.

HMIS Hazard Ranking:
health = 1, flammability = 0, reactivity = 0, personal protective equipment: use N-95 dust mask (see Section 8)

Section 6. Accidental release measures

Clean up released material using vacuum or wet sweep and shovel to minimize generation of dust. Wear appropriate respiratory protection. Bag and drum for disposal. If product is used and/or contaminated, use PPE and containment appropriate to the nature of the mixture.

Section 7. Handling and storage

Avoid skin, eye, or respiratory exposure. Use appropriate PPE when handling or maintaining equipment, and wash thoroughly after handling (see Section 8). Keep product in original container or extinguisher. Contents may be under pressure – inspect for extinguisher rust periodically to insure container integrity. Do not mix with other extinguishing agents.
Section 8. Exposure controls/ personal protection

During the application of this product against fires, exhaust gases and the products of incomplete combustion (PICs) are the principal respiratory hazards. In the manufacture of extinguishers, automated systems and point source ventilation controls sufficiently minimize respiratory exposure. Employers and employees must use their collective judgment in determining occupational settings where the use of a dust mask or air purifying respirator is prudent. The need for respiratory protection is not likely for short-term use in well ventilated areas.

Respiratory protection: use N95 dust mask for limited exposure, use air-purifying respirator (APR) with high efficiency particulate air (HEPA) filters for prolonged exposure.

Eye protection: wear chemical goggles

Skin protection: use nitrile, latex, or similar gloves and coveralls. Good personal hygiene practices essential, such as avoiding food, tobacco products, or other hand-to-mouth contact when handling. Wash thoroughly after handling.

Section 9. Physical and chemical properties

Appearance: off-white powder, finely divided odorless solid.
Specific gravity: ~ 1.0
Solubility: product is not coated, soluble in water
Non-flammable
Flash point: none
Vapor pressure: < 1 mm Hg
pH: approximately 7 for a 10% solution
Boiling point: not applicable
No explosive or oxidizing properties

Section 10. Stability and reactivity

Stability: stable

Incompatibilities: strong acids and strong oxidizers like bleach.
Decomposition products: heat of fire may release chlorine compounds and oxides of sodium.

Possibility of hazardous reactions: none

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Section 11. Toxicological information

**Acute toxicity:** Sodium chloride LD$_{50}$ (rat): oral, 3000 mg/kg body weight, LD$_{50}$ (mouse): oral, 4000 mg/kg body weight, LDLo (lowest lethal dose) (rat): subcutaneous, 3500 mg/kg body weight, LDLo (dog): intraperitoneal, 364 mg/kg body weight.

Target organs in man: None. While an essential nutrient, sodium chloride is a mild irritant to epithelial tissue, (eyes, mucous membranes, skin) and may aggravate dermatitis. No information was found indicating the product causes sensitization.

**Chronic toxicity:** This product’s ingredients are not considered as “probable” or “suspected” carcinogens by OSHA, IARC, or ACGIH. Pneumoconiosis, or “dusty lung” disease, may result from chronic exposure to any dust.

**Reproductive toxicity:** This product’s ingredients are not known to have reproductive or teratogenic effects.

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Section 12. Ecological information

**Ecotoxicity:** negative effects unknown.

**Persistence/Degradability:** degrades slowly in humid/wet environment

**Bioaccumulation:** extent unknown

**Mobility in soil:** insoluble coating, poor mobility
Section 13. Disposal considerations

This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of according to state or local laws, which may be more restrictive than federal laws or regulations. Used product may be altered or contaminated, creating different disposal considerations.

Section 14. Transportation information

This product is not defined as a hazardous material under U.S. Department of Transportation (DOT) 49 CFR 172, or by Transport Canada “Transportation of Dangerous Goods” regulations.

When shipped in a stored pressure type fire extinguisher, and pressurized with a non-flammable, non-toxic inert expellant gas, the fire extinguisher is considered a hazardous material by the US Department of Transportation and Transport Canada. The proper shipping name shall be FIRE EXTINGUISHER and the UN designation is UN 1044. The DOT hazard class/division is 2.2 Non-Flammable Gas. Packing Group – N/A.

Section 15. Regulatory information

International Inventory Status:

All ingredients are on the following inventories

<table>
<thead>
<tr>
<th>Country(ies)</th>
<th>Agency</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>TSCA</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>EINECS/ELINCS</td>
<td>Yes</td>
</tr>
<tr>
<td>Australia</td>
<td>AICS</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>MITI</td>
<td>Yes</td>
</tr>
<tr>
<td>South Korea</td>
<td>KECL</td>
<td>Yes</td>
</tr>
</tbody>
</table>

European Risk and Safety phrases:

EU Classification: Irritant
R Phrases: 20 Harmful by inhalation.
36/37 Irritating to eyes, respiratory system.
S Phrases:  
22 Do not breathe dust.  
24/25 Avoid contact with skin and eyes  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

U.S. federal regulatory information:

None of the chemicals in this product are under SARA reporting requirements or have SARA threshold planning quantities (TPQs) or CERCLA reportable quantities (RQs), or are regulated under TSCA 8(d).

State regulatory information:

Chemicals in this product are covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: None  
California – Permissible Exposure Limits for Chemical Contaminants: None  
Florida – Substance List: Mica Dust  
Illinois – Toxic Substance List: None  
Kansas – Section 302/303 List: None  
Massachusetts – Substance List: Mica Dust  
Minnesota – List of Hazardous Substances: None  
Missouri – Employer Information/Toxic Substance List: None  
New Jersey – Right to Know Hazardous Substance List: None  
North Dakota – List of Hazardous Chemicals, Reportable Quantities: None  
Pennsylvania – Hazardous Substance List: None  
Rhode Island – Hazardous Substance List: Mica Dust  
Texas – Hazardous Substance List: No  
West Virginia – Hazardous Substance List: None  
Wisconsin – Toxic and Hazardous Substances: None

California Proposition 65: No component is listed on the California Proposition 65 list.

Section 16. Shipping information

When shipped in a stored pressure type fire extinguisher, and pressurized with a non-flammable, non-toxic inert expellant gas, the fire extinguisher is considered a hazardous material by the US Department of Transportation and Transport Canada. The proper shipping name shall be FIRE EXTINGUISHER and the UN designation is UN 1044. The DOT hazard class/division is 2.2 Non-Flammable Gas. Packing Group – N/A
Section 17. Other information

This MSDS conforms to requirements under U.S., U.K., Canadian, Australian, and EU regulations or standards, and conforms to the proposed 2003 ANSI Z400.1 format.

The information herein is given in good faith but no warranty, expressed or implied, is made. Updated by Lindsay R. Hill, CIH
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Halotron-1 (Fire Extinguishing Agent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Trade Names</td>
<td>HCFC Blend B, Halocarbon Agent</td>
</tr>
<tr>
<td>Product Description</td>
<td>Fire Extinguishing Agent</td>
</tr>
<tr>
<td>Manufacturer/Supplier</td>
<td>Badger Fire Protection</td>
</tr>
<tr>
<td>Address</td>
<td>944 Glenwood Station Lane, Suite 303</td>
</tr>
<tr>
<td></td>
<td>Charlottesville, VA 22901</td>
</tr>
<tr>
<td></td>
<td>USA</td>
</tr>
<tr>
<td>Phone Number</td>
<td>(434)-964-3200</td>
</tr>
<tr>
<td>Chemtrec Number (for emergencies only)</td>
<td>(800) 424-9300</td>
</tr>
<tr>
<td></td>
<td>(703) 527-3887 (International)</td>
</tr>
<tr>
<td>Revision Date:</td>
<td>February 9, 2012</td>
</tr>
<tr>
<td>MSDS Date:</td>
<td>January 15, 2007</td>
</tr>
</tbody>
</table>

Safety Data Sheet according to EC directive 2001/59/EC and OSHA’s Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

**EU Main Hazards**
Non Flammable Gas

**Routes of Entry**
- Eye contact
- Inhalation
- Skin contact

**Carcinogenic Status**
Not considered carcinogenic by NTP, IARC, and OSHA.

**Target Organs**
- Respiratory System
- Eye
- Cardiovascular System
- Central Nervous System
- Liver

**Health Effects - Eyes**
Direct contact with the cold liquid or gas may cause irritation with discomfort, tearing or blurring of vision.

**Health Effects - Skin**
Direct contact with the cold gas or liquid can cause cooling of exposed tissues.

**Health Effects - Ingestion**
Ingestion is not likely to occur during normal handling and use.

**Health Effects - Inhalation**
Short term exposure to vapor at high concentrations have the following effects: light headedness - dizziness - difficulty with breathing - drowsiness - nausea - mental confusion – irregular pulse - palpitations - loss of consciousness and death. Chronic overexposure may adversely affect the liver. Individuals with pre-existing disease of the central nervous system, cardiovascular system and liver will be at increased risk.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-dichloro-1,1,1-trifluoroethane</td>
<td>306-83-2, EC#206-190-3</td>
<td>&gt;93%</td>
<td>None</td>
<td>Non Flammable Gas</td>
</tr>
<tr>
<td>Proprietary gas mixture</td>
<td>N.A.</td>
<td>&lt;7%</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

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

**Skin**
For general skin exposure, apply large amounts of water. If frostbite occurs, gently warm affected areas. Obtain medical attention if blistering occurs or redness persists.

**Ingestion**
Do not induce vomiting. Dilute by drinking large quantities of water and obtain medical attention.

**Inhalation**
Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

**Advice to Physicians**
Treat symptomatically.

5. FIRE - FIGHTING MEASURES

**Extinguishing Media**
Halotron-1 is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep containers and surroundings cool with water spray as containers may rupture or burst in the heat of a fire. The concentrated agent when applied to fire can produce toxic by-products specifically hydrogen halides which can cause damage. Avoid inhalation of these materials by evacuating and ventilating the area.

**Unusual Fire and Explosion Hazards**
Containers may explode in heat of fire.

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

6. ACCIDENTAL RELEASE MEASURES

Wear full protective clothing and self-contained breathing apparatus. Remove leaking cylinder to a safe place. Ventilate the area. Vapors can accumulate in low areas. Confined spaces should only be entered using a self-contained breathing apparatus.

7. HANDLING AND STORAGE

Cylinders should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike against each other. Never apply flame or localized heat directly to any part of the cylinder.
8. **EXPOSURE CONTROLS/PERSOANL PROTECTION**

**Occupational Exposure Standards**

**Workplace Environmental Exposure Level (chronic handling)**
- WEEL (AIHA) (8 hrs): 50 ppm (v/v), based on the primary component
- Manufacturer’s Recommended 1 Hr. Emergency Exposure Limit: 1000 ppm (v/v)
- Manufacturer’s Recommended 1 Min. Emergency Exposure Limit: 2500 ppm (v/v)

**Exposure Level When Using Halotron I in a Fire Extinguisher**
Exposure when using this material as a fire extinguishing agent - the exposure should not exceed 20,000 ppm (v/v). Guidelines for the safe minimum volume when this agent is used in a confined space are provided on the label of the extinguisher.

**Engineering Control Measures**
Use with adequate ventilation. There should be local procedures for the selection, training, inspection and maintenance of this equipment. When used in large volumes or odor becomes apparent, use local exhaust ventilation.

**Respiratory Protection**
Not normally required under conditions of use as a portable fire extinguisher. In areas where the agent concentration is above acceptable levels, use a self contained breathing apparatus, as an air purifying respirator will not provide protection.

**Hand Protection**
Wear rubber gloves. Avoid contact with skin.

**Eye Protection**
Chemical goggles or safety glasses with side shields. Avoid contact with eyes.

**Body Protection**
Normal work wear.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Pressurized Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight ether</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>27°C/80.6°F</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not Flammable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>0.39% wt @ 25°C/77°F, 1 atm.</td>
</tr>
<tr>
<td>Relative Density (Air = 1)</td>
<td>5.14</td>
</tr>
<tr>
<td>Vapor Pressure of Liquid</td>
<td>~ 11.2 psig @ 68°F</td>
</tr>
<tr>
<td></td>
<td>77 kPa @ 20°C</td>
</tr>
<tr>
<td>Liquid Density</td>
<td>92.3 lb/ft³ @ 77°F</td>
</tr>
<tr>
<td></td>
<td>1.48 kg/l @ 25°C</td>
</tr>
<tr>
<td>Gas Density</td>
<td>~ 0.385 lb/ft³</td>
</tr>
<tr>
<td></td>
<td>~ 6.17 kg/m³</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not measured - readily volatilizes</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
Avoid heating the storage cylinder above temperatures which will cause an overpressure to occur.

Materials to Avoid
Incompatible with alkali or alkaline earth metals, and powdered metals Al, Zn, Be, etc.

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
Hydrogen fluoride - hydrogen chloride - possibly carbonyl halides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Low order of acute toxicity
For: 2,2-dichloro-1,1,1-trifluoroethane: Inhalation 4 hour, LC50(rat): 32,000 ppm
Oral ALD, rat: 9000 mg/kg
Dermal ALD, rabbit: >2000 mg/kg

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
No data available.

Persistence/Degradability
No data available.

Bio-accumulation
No data available.

Ecotoxicity
For: 2,2-dichloro-1,1,1-trifluoroethane:
Aquatic Toxicity: slightly toxic
96 hour LC50- fathead minnows: >77mg/L

13. DISPOSAL CONSIDERATIONS

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. If spilled, contents will vaporize to the atmosphere.
14. TRANSPORT INFORMATION

**Bulk Shipments:**
- **DOT CFR 172.101 Data:** Compressed Gases, n.o.s. (contains Tetrafluoromethane, Argon), 2.2, UN1956
- **UN Proper Shipping Name:** Compressed Gases, n.o.s. (contains Tetrafluoromethane, Argon)
- **UN Class:** (2.2) Non-Flammable Gas
- **UN Number:** UN1956
- **UN Packaging Group:** Not applicable

**Fire Extinguishers:**
- **DOT CFR 172.101 Data:** Fire extinguishers, 2.2, UN1044
- **UN Proper Shipping Name:** Fire extinguishers, 2.2, UN1044
- **UN Class:** (2.2) Non-Flammable Gas
- **UN Number:** UN1044
- **UN Packaging Group:** Not applicable

15. REGULATORY INFORMATION

**EU Label Information**
Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)
- **EU Hazard Symbol and Indication of Danger:** Non Flammable Gas
- **R phrases:** None
- **S phrases:** S9 Keep container in a well ventilated place.

**US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS**

**TSCA Listing**
This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

**EINECS Listing**
All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of New Chemical Substances (ELINCS) or are exempt from listing.

**DSL/NDSL (Canadian) Listing**
All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

**WHMIS Classification**
A
This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.
15. REGULATORY INFORMATION

MA Right To Know Law
All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimis concentration include: argon (7440-37-1)

PA Right To Know Law
This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - argon (7440-37-1) - tetrafluoromethane (75-73-0)

NJ Right To Know Law
This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - argon (7440-37-1) - tetrafluoromethane (75-73-0)

California Proposition 65
This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

SARA Title III Sect. 302 (EHS)
This product does not contain any chemicals subject to SARA Title III Section 302.

SARA Title III Sect. 304
This product does not contain any chemicals subject to SARA Title III Section 304.

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

SARA Title III Sect. 313
This product contains a chemical which is listed in Section 313 at or above de minimis concentrations: 2,2-dichloro-1,1,1-trifluoroethane (306-83-2)

16. OTHER INFORMATION

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

HMIS Ratings
HMIS Code for Health - 1
HMIS Code for Flammability - 0
HMIS Code for Reactivity - 1
HMIS Code for Personal Protection - See Section 8

Abbreviations
ALD: Approximate Lethal Dose
N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
16. OTHER INFORMATION

IARC: International Agency for Research on Cancer
R: Risk
S: Safety

Prepared By: EnviroNet LLC.
The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Badger Fire Protection assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

Product Name: Universal Ultra AR-AFFF Concentrate (Fire Extinguishing Agent)
Other Trade Names: Alcohol Resistant Aqueous Film Forming Foam
Product Description: Fire Extinguishing Agent
Manufacturer/Supplier: Badger Fire Protection
Address: 944 Glenwood Station Lane, Suite 303
          Charlottesville, VA  22901
          USA
Phone Number: (434)-964-3200
Chemtrec Number: (800) 424-9300
(for emergencies only) (703) 527-3887 (International)
Revision Date: February 9, 2012
MSDS Date: January 17, 2007

Safety Data Sheet according to EC directive 2001/59/EC and OSHA's Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

EU Main Hazards
Non Hazardous Liquid

Routes of Entry
Eye contact - Inhalation - Skin contact

Carcinogenic Status
Not considered carcinogenic by NTP, IARC, and OSHA.

Target Organs
Respiratory System - Skin - Eye

Health Effects - Eyes
Contact for short periods of time may cause irritation.

Health Effects - Skin
Contact may cause moderate irritation. Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis.

Health Effects - Ingestion
Ingestion is not an expected route of exposure.

Health Effects - Inhalation
Inhalation is not an expected route of exposure during normal industrial use. Excessive inhalation exposure may cause irritation of respiratory tract, anesthetic or narcotic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>89.5 - 98.3%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>EC#2317912</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Revision Date: February 9, 2012
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2-Methoxymethylethoxy)Propylol</td>
<td>34590-94-8 EC#2521042</td>
<td>0.5 - 2.5%</td>
<td>Xi</td>
<td>R36, R38</td>
</tr>
<tr>
<td>Synthetic Detergents</td>
<td>Proprietary</td>
<td>1.0 - 5.0%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Polysaccharide</td>
<td>11138-66-2 EC#2343942</td>
<td>0.1 - 1.5%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Fluoroalkyl Surfactant</td>
<td>Proprietary</td>
<td>0.1 - 1.5%</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

4. 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 affected area 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.

**Advice to Physicians**
Treat symptomatically.

5. FIRE - FIGHTING MEASURES

**Extinguishing Media**
This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep pressurized extinguishers and surroundings cool with water spray as they may rupture or burst in the heat of a fire.

**Unusual Fire and Explosion Hazards**
Pressurized containers may explode in heat of fire.

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

6. ACCIDENTAL RELEASE MEASURES

Contain and absorb using appropriate inert material. Transfer into suitable containers for disposal. Prevent skin and eye contact. Wear appropriate protective equipment. Prevent the material from entering drains or watercourses.
7. HANDLING AND STORAGE

Pressurized extinguishers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll extinguishers. Do not drop extinguishers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the extinguisher or plastic container. Store pressurized extinguishers and plastic 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

Occupational Exposure Standards
Occupational exposure limits are listed below, if they exist.

(2-Methoxymethylethoxy)Propanol
ACGIH: TLV 100 ppm (606 mg/m$^3$) 8h TWA. 150 ppm (909 mg/m$^3$) STEL.
OSHA: PEL 100 ppm (600 mg/m$^3$)
Can be absorbed through skin.

Engineering Control Measures
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.

Respiratory Protection
Not normally required.

Hand Protection
Not normally needed when used as a portable fire extinguisher. Use gloves if irritation occurs.

Eye Protection
Chemical goggles or safety glasses with side shields.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Viscous Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild, pleasant</td>
</tr>
<tr>
<td>pH</td>
<td>8.5</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.015 @ 25°C</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not Flammable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>soluble</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate = 1)</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
Heat - High temperatures - Exposure to direct sunlight

Materials to Avoid
Water reactive materials – burning metals – electronically energized equipment

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
Oxides of carbon

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Low order of acute toxicity.

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bio-accumulation
No relevant studies identified.

Ecotoxicity
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data
Not regulated

UN Proper Shipping Name
Not regulated

UN Class
None
14. TRANSPORT INFORMATION

| UN Number | None |
| UN Packaging Group | None |

15. REGULATORY INFORMATION

**EU Label Information**

Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)

**EU Hazard Symbol and Indication of Danger.**

This preparation is not classified as dangerous.

**R phrases**

None

**S phrases**

None.

**US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS**

**TSCA Listing**

This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

**EINECS Listing**

All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS) or are exempt from listing.

**DSL/NDSL (Canadian) Listing**

All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

**WHMIS Classification**

D2B

This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

**MA Right To Know Law**

All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimus concentration include: magnesium nitrate(10377-60-3) <0.5%, (2-Methoxymethylethoxy)Propanol (34590-94-8) <3%

**PA Right To Know Law**

This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - (2-Methoxymethylethoxy)Propanol (34590-94-8) <3%

**NJ Right To Know Law**

This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - (2-Methoxymethylethoxy)Propanol (34590-94-8) <3%, magnesium nitrate <0.5%

**California Proposition 65**

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.
15. REGULATORY INFORMATION

SARA Title III Sect. 302 (EHS)
This product does not contain any chemicals subject to SARA Title III Section 302.

SARA Title III Sect. 304
This product does not contain any chemicals subject to SARA Title III Section 304.

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 Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations
N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
R36: Irritating to eyes.
R38: Irritating to skin.
S: Safety

Prepared By: EnviroNet LLC.

The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Badger Fire Protection assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

Product Name: Karbaloy (Fire Extinguishing Agent)
Other Trade Names: Potassium Carbonate, Range Guard System Wet Chemical
Product Description: Fire Extinguishing Agent
Manufacturer/Supplier: Badger Fire Protection
Address: 944 Glenwood Station Lane, Suite 303, Charlottesville, VA 22901, USA
Phone Number: (434)-964-3200
Chemtrec Number: (for emergencies only)
(800) 424-9300
(703) 527-3887 (International)
Revision Date: February 9, 2012
MSDS Date: January 15, 2007

Safety Data Sheet according to EC directive 2001/59/EC and OSHA’s Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

EU Main Hazards
Irritating to eyes, respiratory system and skin.

Routes of Entry
Eye contact - Inhalation - Skin contact

Carcinogenic Status
Not considered carcinogenic by NTP, IARC, and OSHA.

Target Organs
Respiratory System - Skin - Eye

Health Effects - Eyes
Contact for short periods of time may cause irritation. Prolonged contact can cause severe irritation and eye damage.

Health Effects - Skin
Contact may cause mild irritation. Prolonged contact can cause chemical burns.

Health Effects - Ingestion
Ingestion may cause severe irritation, vomiting and chemical burns.

Health Effects - Inhalation
May cause irritation of the respiratory tract and coughing.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Carbonate</td>
<td>584-08-7 EC#2095293</td>
<td>&gt;40%</td>
<td>R36/37/38</td>
<td>Xn</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5 EC#2317912</td>
<td>&lt;60%</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>
4. 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 affected area 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.

   Advice to Physicians
   Treat symptomatically.

5. FIRE - FIGHTING MEASURES

   Extinguishing Media
   This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep all pressurized containers and jugs and surroundings cool with water spray as they may rupture or burst in the heat of a fire.

   Unusual Fire and Explosion Hazards
   Pressurized containers may explode in heat of fire.

   Protective Equipment for Fire-Fighting
   Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. ACCIDENTAL RELEASE MEASURES

   Contain and absorb using appropriate inert material. Transfer into suitable containers for disposal. Prevent skin and eye contact. Wear appropriate protective equipment. Prevent large quantities of the material from entering drains or watercourses.

7. HANDLING AND STORAGE

   Pressurized containers and jugs should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll containers. Do not drop containers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the container. 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

   Occupational Exposure Standards
   Occupational exposure limits are listed below, if they exist.

   Potassium Carbonate
   None established
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Control Measures**
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.

**Respiratory Protection**
Not normally required.

**Hand Protection**
Use rubber gloves when handling the preparation.

**Eye Protection**
Chemical goggles or safety glasses with side shields.

**Body Protection**
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
</tr>
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<td>Odor</td>
<td>Odorless</td>
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<td>pH</td>
<td>&gt;11</td>
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<tr>
<td>Specific Gravity</td>
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<tr>
<td>Boiling Range/Point (°C/F)</td>
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<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not Flammable</td>
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<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

**Stability**
Stable under normal conditions.

**Conditions to Avoid**
Heat - High temperatures - Exposure to direct sunlight

**Materials to Avoid**
Acids – ammonium compounds - metals

**Hazardous Polymerization**
Will not occur.

**Hazardous Decomposition Products**
Oxides of carbon
11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Low order of acute toxicity.
Potassium Carbonate: Oral LD50 (rat): 1870 mg/kg

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bio-accumulation
No relevant studies identified.

Ecotoxicity
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. No harm to the environment is expected from this preparation.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data Not regulated
UN Proper Shipping Name Not regulated
UN Class None
UN Number None
UN Packaging Group None

15. REGULATORY INFORMATION

EU Label Information
Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)

EU Hazard Symbol and Indication of Danger.
Xi - Irritant
R phrases
R36/37/38 - Irritating to eyes, respiratory system and skin.
15. REGULATORY INFORMATION

S phrases
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36 Wear suitable protective clothing.

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS

TSCA Listing
This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

EINECS Listing
All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS) or are exempt from listing.

DSL/NDSL (Canadian) Listing
All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

WHMIS Classification
D2B
This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

MA Right To Know Law
All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimus concentration include: none

PA Right To Know Law
This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: none

NJ Right To Know Law
This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: none

California Proposition 65
This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

SARA Title III Sect. 302 (EHS)
This product does not contain any chemicals subject to SARA Title III Section 302.

SARA Title III Sect. 304
This product does not contain any chemicals subject to SARA Title III Section 304.

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 - 2
NFPA Code for Flammability - 0
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards - None

HMIS Ratings
HMIS Code for Health - 2
HMIS Code for Flammability - 0
HMIS Code for Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations
N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
S: Safety

Prepared By: EnviroNet LLC.
The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Badger Fire Protection assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

Product Name: Kidde 90 Multi-Purpose ABC Dry Chemical (Fire Extinguishing Agent)
Other Trade Names: ABC, Ammonium Phosphate, Monoammonium Phosphate, Tri-Class
Product Description: Fire Extinguishing Agent
Manufacturer/Supplier: Badger Fire Protection
Address: 944 Glenwood Station Lane, Suite 303
Charlottesville, VA 22901
USA
Phone Number: (434)-964-3200
Chemtrec Number: (800) 424-9300
(for emergencies only) (703) 527-3887 (International)
Revision Date: February 9, 2012
MSDS Date: January 15, 2007

Safety Data Sheet according to EC directive 2001/59/EC and OSHA’s Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

EU Main Hazards: Non Hazardous Powder
Routes of Entry:
Eye contact - Inhalation - Skin contact

Carcinogenic Status:
See Section 11 - Toxicity

Target Organs:
Respiratory System - Skin - Eye

Health Effects - Eyes:
Contact for short periods of time may cause irritation.

Health Effects - Skin:
Contact may cause mild irritation.

Health Effects - Ingestion:
Ingestion is not an expected route of exposure.

Health Effects - Inhalation:
May irritate the respiratory tract. May cause transient cough and shortness of breath.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monoammonium Phosphate</td>
<td>7722-76-1</td>
<td>85 - 97%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>EC#2317645</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonium Sulfate</td>
<td>7783-20-2</td>
<td>1-6%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>EC#2319841</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mica</td>
<td>12001-26-2</td>
<td>1 - 4%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Clay</td>
<td>8031-18-3</td>
<td>&lt;2%</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

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3. COMPOSITION/INFORMATION ON INGREDIENTS

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<thead>
<tr>
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<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amorphous Silica</td>
<td>7631-86-9</td>
<td>&lt;2%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>EC#2315454</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dye</td>
<td>NA</td>
<td>&lt;0.1%</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

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

**Skin**
Wash affected area 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.

**Advice to Physicians**
Treat symptomatically.

5. FIRE - FIGHTING MEASURES

**Extinguishing Media**
This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep pressurized extinguishers and surroundings cool with water spray as they may rupture or burst in the heat of a fire.

**Unusual Fire and Explosion Hazards**
Pressurized containers may explode in heat of fire.

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

6. ACCIDENTAL RELEASE MEASURES

Sweep up or vacuum. Prevent skin and eye contact. Wear appropriate protective equipment.

7. HANDLING AND STORAGE

Pressurized extinguishers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll extinguishers. Do not drop extinguishers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the extinguisher or plastic container. Store pressurized extinguishers and plastic 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

**Occupational Exposure Standards**
Occupational exposure limits are listed below, if they exist.

**Mica**
ACGIH TLV: 3 mg/m³ TWA, measured as respirable fraction of the aerosol.
OSHA PEL: 20 mppcf, <1% crystalline silica

**Nuisance Dust Limit**
OSHA PEL: 50 mppcf or 15 mg/m³ TWA, total dust
15 mppcf or 5 mg/m³ TWA, respirable fraction

**Engineering Control Measures**
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.

**Respiratory Protection**
Not normally required. Use dust mask where dustiness is prevalent, or TLV is exceeded.

**Hand Protection**
Not normally needed when used as a portable fire extinguisher. Use gloves if irritation occurs.

**Eye Protection**
Chemical goggles or safety glasses with side shields.

**Body Protection**
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Powder</td>
</tr>
<tr>
<td>Color</td>
<td>Pale Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not Flammable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>Heavier than air.</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

**Stability**
Stable under normal conditions.

**Conditions to Avoid**
- Heat  - High temperatures  - Exposure to direct sunlight

**Materials to Avoid**
- Strong oxidizing agents  - strong acids  - sodium hypochlorite

**Hazardous Polymerization**
Will not occur.
10. STABILITY AND REACTIVITY

Hazardous Decomposition Products
- oxides of carbon
- ammonia
- oxides of phosphorus
- nitrogen oxides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Low order of acute toxicity.

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Mica and clay may contain small quantities of quartz (crystalline silica) as an impurity. Prolonged exposure to respirable crystalline silica dust at concentrations exceeding the occupational exposure limits may increase the risk of developing a disabling lung disease known as silicosis. IARC found limited evidence for pulmonary carcinogenicity of crystalline silica in humans.

Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bio-accumulation
No relevant studies identified.

Ecotoxicity
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. No harm to the environment is expected from this preparation.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data
Not regulated

UN Proper Shipping Name
Not regulated

UN Class
None

UN Number
None

UN Packaging Group
None

15. REGULATORY INFORMATION

**EU Label Information**

Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments (2001/60/EC and 2006/8/EC).

**EU Hazard Symbol and Indication of Danger.**

This preparation is not classified as dangerous.

**R phrases**

None

**S phrases**

None.

**US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS**

**TSCA Listing**

This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

**EINECS Listing**

All ingredients in this product have not been verified for listing on the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of New Chemical Substances (ELINCS).

**DSL/NDSL (Canadian) Listing**

All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

**WHMIS Classification**

D2B

This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

**MA Right To Know Law**

All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimus concentration include: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) <2% - Ammonium Sulfate (7783-20-2) 1-6%

**PA Right To Know Law**

This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) <2% - Ammonium Sulfate (7783-20-2) 1-6%

**NJ Right To Know Law**

This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - Mica (12001-26-2) 1-4% - Amorphous Silica (7631-86-9) <2%

**California Proposition 65**

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

**SARA Title III Sect. 302 (EHS)**

This product does not contain any chemicals subject to SARA Title III Section 302.

**SARA Title III Sect. 304**

This product does not contain any chemicals subject to SARA Title III Section 304.
15. REGULATORY INFORMATION

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 Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations
N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
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