Westfield State University
STANDARD OPERATING PROCEDURE:

PROCEDURAL GUIDELINES FOR THE CLEAN-UP OF DISCHARGED ABC DRY CHEMICAL FIRE EXTINGUISHANT:

Overview:

ABC fire extinguishers are typically used to extinguish small fires. ABC dry chemical products are nontoxic and have an OSHA health hazard rating of (1) on a scale of 0 to 4. While this product is not known to cause any chronic illness or disease, it can be an irritant to eyes and the respiratory system if PPE (Personal Protective Equipment) is not worn while performing cleanup tasks of the discharged product. Please see the attached MSDS for this product.

APPLICABILITY: Campus-wide

PURPOSE: To provide standardized guidelines for the cleanup of discharged extinguishant

PROCEDURES: Coordinate arrangements to clean the discharged residue as soon as possible. Make certain persons in the area not associated with the cleanup are asked to leave the area. Only authorized staff wearing the proper protective equipment should be allowed in the affected area. Trained staff tasked with cleanup will be wearing a disposable tyvek suit, goggles, gloves, an N95 nuisance/dust mask and disposable boot covers.

Cleanup Kit: There is one complete kit and a NaceCare HEPA vacuum located within Environmental Services, Room 228, Parenzo Hall. When this kit is used a notification must be sent to the department supervisor to ensure restocking/replacement of kit items. The kit must always be accompanied by the HEPA vacuum. This vacuum is for the sole purpose of cleaning fire extinguishant and must never be taken for other cleaning purposes. The vacuum and kit must be returned to Environmental Services after use.

Kit items:

(5) safety goggles
(10) pair of protective vinyl gloves*
(10) N-95 dust/mist mask
(1) Mop and bucket and clean rags and towels

Nace Care HEPA VACUUM AND FILTERS

While N-95 masks are recommended due to a very low health hazard, employees who would prefer to wear a half-face negative pressure respirator (voluntarily) will be part of a pre-established cleanup team where they have been tested for pulmonary function and a fit test. Those employees will be part of a Fire Extinguishant Cleanup Team and will be on file and on call for this type of work.
MATERIAL SAFETY DATA SHEET

Section 1. Chemical product and company identification

Product Name: ABC Dry Chemical Fire Extinguishmenth
Synonym: Multi-purpose Dry Chemical (CH550, CH555)
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: December, 2010

Section 2. Hazard identification and emergency overview

Emergency overview: Light yellow, fine solid powder, odorless.

Adverse health effects and symptoms: Irritating to the respiratory system, eyes and skin. Symptoms may include coughing, shortness of breath, and irritation of the lungs, eyes, and skin. Ingestion, although unlikely, may cause cramps, nausea and diarrhea.

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>Mono-ammonium phosphate</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>Ammonium sulphate</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>6 mg/m³</td>
<td>3 mg/m3</td>
<td>NR</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>Name/Compound</td>
<td>Weight %</td>
<td>CAS #</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>----------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>Mono-ammonium phosphate and</td>
<td></td>
<td>7722-76-1</td>
<td></td>
</tr>
<tr>
<td>Ammonium sulphate</td>
<td>&gt;94</td>
<td>7783-20-2</td>
<td></td>
</tr>
<tr>
<td>Fullers Earth</td>
<td>&lt;3</td>
<td>8031-18-3</td>
<td></td>
</tr>
<tr>
<td>magnesium aluminum silicate-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mica potassium aluminum silicate</td>
<td>1-2</td>
<td>12001-26-2</td>
<td></td>
</tr>
<tr>
<td>Silicone oil methyl hydrogen polysiloxane</td>
<td>&lt;1</td>
<td>63148-57-2</td>
<td></td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>&lt;1</td>
<td>1317-65-3</td>
<td></td>
</tr>
<tr>
<td>Amorphous silica precipitated synthetic zeolite</td>
<td>&lt;1</td>
<td>112926-00-8</td>
<td></td>
</tr>
<tr>
<td>Yellow 14 pigment – di-azo dye</td>
<td>&lt;1</td>
<td>5468-75-7</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 persists.

Ingestion: If victim is conscious and alert, give 2-3 glasses of water to drink and do not induce vomiting. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

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).

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Section 5. Fire fighting measures

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

Unusual fire/explosion hazards: in a fire this material may decompose, releasing oxides of sulfur and carbon (see Section 10).

Insensitive to mechanical impact or static discharge.

HMIS Hazard Ranking:
health = 1, flammability = 0, reactivity = 0, personal protective equipment: ½ mask APR w/HEPA cartridges (see Section 8).

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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. Prevent material from entering waterways.
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 or air-purifying respirator (APR) with high efficiency particulate air (HEPA) filters.

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: yellow powder, finely divided odorless solid.
Specific gravity: ~ .88 in aerated condition
Solubility: product is coated-not immediately soluble in water
Non-flammable
Flash point: none
Vapor pressure: < 1 mm Hg
pH: approximately 4-5
Boiling point: not applicable
No explosive or oxidizing properties
Section 10. Stability and reactivity

Stability: stable

Incompatibles: strong alkalis (bases), magnesium, strong oxidizers such as calcium hypochlorite (pool chlorine) and isocyanuric acids.

Decomposition products: heat of fire may release carbon monoxide, carbon dioxide, and sulfur dioxide. Oxides of phosphorous and ammonia reported.

Possibility of hazardous reactions: Slight. See incompatibilities above.

Section 11. Toxicological information

Acute toxicity: Mono ammonium phosphate LD$_{50}$ (rat): > 1000mg/kg body weight Ammonium sulfate LD$_{50}$ (rat): 2840 mg/kg body weight Target organs in man: respiratory system, eyes, skin. This product is an irritant to epithelial tissue, and may aggravate dermatitis. No information was found indicating the product causes sensitization.

Chronic toxicity: 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.

Section 12. Ecological information

Ecotoxicity: negative effects unknown. Provides nutrient nitrogen and phosphorus to plant life.

Persistence/ Degradability: degrades rapidly in humid/wet environment.

Bioaccumulation: extent unknown.

Mobility in soil: slow evaporation rate; water soluble, may leach to groundwater.
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 a hazardous material under U.S. Department of Transportation (DOT) 49 CFR 172, and is not regulated by the DOT or 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: Harmful.
R Phrases: 22  Harmful if swallowed.
36/37/38 Irritating to eyes, respiratory system, and skin.
S Phrases: 26  In case of contact with eyes, rinse immediately with
36 plenty of water and seek medical advice.
36  Wear suitable protective clothing.

Components:
Mono ammonium phosphate:
EU Classification: Harmful.
R Phrases: 22  Harmful if swallowed.
36/37/38 Irritating to eyes, respiratory system, and skin.
S Phrases: 26  In case of contact with eyes, rinse immediately with
36 plenty of water and seek medical advice.
36  Wear suitable protective clothing.

Ammonium sulfate:
EU Classification: Irritant
R Phrases: 22  Harmful if swallowed.
36/37/38 Irritating to eyes, respiratory system, and skin.
S Phrases: 26  In case of contact with eyes, rinse immediately with
36 plenty of water and seek medical advice.
36  Wear suitable protective clothing.

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, Ammonium Sulfate
Illinois – Toxic Substance List: None
Kansas – Section 302/303 List: None
Massachusetts – Substance List: Mica Dust, Ammonium Sulfate
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, Ammonium Sulfate
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. 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.