

MSDS for Product Distributed by Zee Medical**Fire Extinguishers (Zee #4465, 4466, 4467, 4468)**

AMEREX CORPORATION ABC Dry Chemical MSDS

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AMEREX CORPORATION
7595 Gadsden Highway
P. O. Box 81
Trussville, Alabama 35173-0081
MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards¹

PART I *What is the material and what do I need to know in an emergency?***1. PRODUCT IDENTIFICATION****TRADE NAME (AS LABELED):****SYNONYMS:****MANUFACTURER'S NAME:****ADDRESS:****EMERGENCY PHONE:****BUSINESS PHONE:****REVIEWED:****ABC DRY CHEMICAL****Multi-Purpose Dry Chemical****AMEREX CORPORATION****P.O. BOX 81****Trussville, AL 35173-0081****1-800-424-9300 (CHEMTREC)****(205) 655-3271****MARCH 1, 2001****2. COMPOSITION and INFORMATION ON INGREDIENTS**

CHEMICAL NAME	CAS #	% w/w	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			OTHER
			TLV mg/m ³	STEL mg/m ³	PEL mg/m ³	STEL mg/m ³	IDLH mg/m ³	
Mono Ammonium Phosphate	7722-76-1	95	ACGIH TLV for Particulates, Not Otherwise Classified = 10; OSHA PEL for Particulates Not Otherwise regulated, Total Dust = 15, Respirable Fraction 5.					
Ammonium Sulfate	7783-20-2							
Mica	12001-26-2	< 3	3 (Respirable Fraction)	NE	3 (Respirable Fraction)	NE	NE	NE
Attaclay	8031-18-3	< 3	NE	NE	NE	NE	NE	NE
Silicone Oil	63148-57-2	< 1	NE	NE	NE	NE	NE	NE
Calcium Carbonate	471-34-1	< 1	ACGIH TLV for Particulates, Not Otherwise Classified = 10; OSHA PEL for Particulates Not Otherwise regulated, Total Dust = 15, Respirable Fraction 5.					
Silica (Precipitated)	112926-00-8	< 1	2	NE	6	NE	NE	NE
Yellow Pigment	5468-75-7	< 1	NE	NE	NE	NE	NE	NE

NE = Not Established

C = Ceiling Level See Section 16 for Definitions of Terms Used

¹ NOTE: all WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

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3. HAZARD IDENTIFICATION**EMERGENCY OVERVIEW:** This mixture of dry chemicals poses little hazard. Mechanical

irritation of the eyes is possible during the use and maintenance of the extinguishing units. Chronic inhalation of any particulate may damage the lungs.

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: Over-exposure to this product may cause mild skin irritation, moderate eye irritation, and possible gastric distress. The product is not known to cause chronic illness.

INHALATION: Inhalation of this product should be avoided, but if it occurs, may cause mild irritation of the nose, throat, and other tissues of the respiratory system.

CONTACT WITH SKIN or EYES: Contact of dust from this product with the eyes may cause moderate irritation, reddening of the affected eye, and discomfort.

SKIN ABSORPTION: No component of this product is known to absorb through the skin.

INGESTION: Ingestion of this product may cause mild gastric distress.

INJECTION: While injection of this product is unlikely, it may occur as a result of a puncture or cut with a sharp object contaminated with the extinguishing agent. Mild symptoms, similar to those of skin irritation may occur.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in **Lay Terms**. This product poses low, acute health risks.

ACUTE: This extinguishing material presents only a slight risk of causing acute health effects. If such effects occur, they will be in the form of mild irritation of the skin, nose, or throat and moderate irritation of the eyes. If ingested, this product may cause an upset stomach.

CHRONIC: This product is not known to cause any chronic illnesses or diseases.

HAZARDOUS MATERIAL INFORMATION SYSTEM			
HEALTH	(BLUE)		1
FLAMMABILITY	(RED)		0
REACTIVITY	(YELLOW)		0
PROTECTIVE EQUIPMENT			
EYES	RESPIRATORY	HANDS	BODY
	See Section 8		See Section 8
For routine industrial applications			

PART II *What should I do if a hazardous situation occurs?*

4. FIRST-AID MEASURES

SKIN EXPOSURE: If spilled on skin, immediately begin decontamination with running water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. If reddening or irritation occurs, victim and rescuers must seek immediate medical attention.

EYE EXPOSURE: If chemical is splashed in eyes, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes.

INHALATION: If chemical is inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. If reddening or irritation occurs, victim and rescuers must seek immediate medical attention.

ABC DRY CHEMICAL MSDS
PAGE 2 OF 8**4. FIRST-AID MEASURES (Continued)**

INGESTION: If chemical is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. Victim should drink milk, egg whites, or large quantities of water. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow.

If exposure causes obvious distress, victim(s) and rescuers must be taken for medical attention. Take copy of label and MSDS to physician or health professional with victim.

5. FIRE-FIGHTING MEASURES

FLASH POINT, Degree C (method): Not applicable.

NFPA RANKING - HEALTH=1, FLAMMABILITY=0, REACTIVITY=0, OTHER=0

AUTOIGNITION TEMPERATURE, Degree C: Not applicable.

FLAMMABLE LIMITS (in air by volume, %): Lower (LEL): Not applicable.
Upper (UEL): Not applicable.

FIRE EXTINGUISHING MATERIALS: None. This product is a fire extinguishing agent.

UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire, this material may decompose and produce irritating fumes and toxic gases including sulfur oxides, carbon dioxide and carbon monoxide.

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural fire fighters must wear Self-Contained Breathing Apparatus and full protective equipment.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel. If it is determined that exposure guidelines for nuisance particulates -- 10 mg/m³ (total particulates) or 5 mg/m³ (respirable particulates) -- is exceeded, use **Level C: triple-gloves (rubber gloves and nitrile gloves, over latex gloves), chemically resistant suit and boots, hard-hat, and air purifying respirator with a HEPA filter.** Sweep-up the spilled solid and place all spill residue in a double plastic bag and seal. Dispose of in accordance with Federal, State, and local hazardous waste disposal regulations (see Section 13).

PART III *How can I prevent hazardous situations from occurring?*

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: Avoid getting chemicals ON YOU or IN YOU.

Wash hands after handling chemicals. Do not eat or drink while handling chemicals or recharging fire extinguishers.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Avoid breathing sprays or mists generated by this product.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Decontaminate equipment using soapy water before maintenance begins. Collect all rinsates and dispose of according to applicable Federal, State, or local procedures.

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8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Use a mechanical fan or vent area to outside.

RESPIRATORY PROTECTION: Respiratory protection is not expected to be needed. Maintain airborne contaminant concentrations below guidelines for nuisance particulates: 10 mg/m³ (total particulates) or 5 mg/m³ (respirable particulates). If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, or applicable State regulations. Use supplied air respiratory protection if oxygen levels are below 19.5%.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Wear rubber gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 of this MSDS.

BODY PROTECTION: Use body protection appropriate for task.

9. PHYSICAL and CHEMICAL PROPERTIES

VAPOR DENSITY: Not applicable.

SPECIFIC GRAVITY: Approximately 0.85

SOLUBILITY IN WATER: Not soluble. Water-repellent coating.

VAPOR PRESSURE, mm Hg @ 20 Degrees C: Not applicable.

APPEARANCE AND COLOR: This material is a finely divided, yellowish powder.

HOW TO DETECT THIS SUBSTANCE (warning properties): This product does not have any specific warning properties.

EVAPORATION RATE (n-BuAc=1): Not applicable.

MELTING POINT or RANGE: Not applicable.

BOILING POINT: Not applicable.

pH (10% solution): Approximately 4-5

10. STABILITY and REACTIVITY

STABILITY: Stable.

DECOMPOSITION PRODUCTS: Sulfur oxides, carbon monoxide and carbon dioxide.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong alkalis, magnesium, swimming pool sanitizers (inorganic perchlorates, sodium dichloroisocyanurate dihydrate, trichloroisocyanuric acid, calcium hypochlorite, and other strong oxidizers).

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Incompatible materials.

PART IV *Is there any other useful information about this material?*

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following data is available for components of this product greater than 1 percent by weight in concentration.

AMMONIUM SULFATE

TDLo (oral, man) = 1500 mg/kg

LD50 (oral, rat) = 3000 mg/kg

LD50 (interperitoneal, rat) = 610 mg/kg

MONO-AMMONIUM PHOSPHATE

No toxicology information listed.

SUSPECTED CANCER AGENT: This product's ingredients are not found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA. A variety of silica forms (i.e. crystalline, fumed) are reported in IARC as a Group 3 Compound (Human Inadequate Evidence; Animal Inadequate Evidence).

IRRITANCY OF PRODUCT: This product may cause mild skin and respiratory irritation and moderate eye irritancy.

SENSITIZATION TO THE PRODUCT: This product is not known to cause sensitization.

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11. TOXICOLOGICAL INFORMATION (Continued)

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: This product is not known to cause mutagenic effects.

Teratogenicity: This product is not known to cause teratogenic effects.

Reproductive Toxicity: This product is not known to cause reproductive toxicity effects.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Prolonged contact with this product may cause pre-existing dermatitis to become aggravated. Persons sensitive to pulmonary irritation upon exposure to high concentrations of dust should use appropriate engineering controls or respiratory protection when recharging fire extinguishers.

RECOMMENDATIONS TO PHYSICIANS: Treat patient symptoms. This product should not cause any notable clinical symptoms.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: No adverse environmental consequences are expected.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: None currently known.

EFFECT OF CHEMICAL ON AQUATIC LIFE: Not expected to harm aquatic life.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This chemical, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.
EPA WASTE NUMBER: Not applicable.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME:	Not applicable.
HAZARD CLASS NUMBER and DESCRIPTION:	Not applicable.
UN IDENTIFICATION NUMBER:	Not applicable.
PACKING GROUP:	Not applicable.
DOT LABEL(S) REQUIRED:	Not applicable.
EMERGENCY RESPONSE GUIDE NUMBER:	Not applicable.

MARINE POLLUTANT: Not applicable.

THIS MATERIAL IS HAZARDOUS AS DEFINED BY TRANSPORT CANADA "TRANSPORTATION OF DANGEROUS GOODS" REGULATIONS.

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15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: No component of this product is subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act.

SARA Threshold Planning Quantity: Not applicable.

TSCA INVENTORY STATUS: All components are listed on the TSCA Inventory.

CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

OTHER FEDERAL REGULATIONS: Not applicable.

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.

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.

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.

Kansas - Section 302/313 List: None.

North Dakota - List of Hazardous
Chemicals, Reportable Quantities: None.Wisconsin - Toxic and Hazardous
Substances: None.

CALIFORNIA PROPOSITION 65: No component is listed on the California Proposition 65 lists.

LABELING (Precautionary Statements): CAUTION! May cause skin or eye irritation. Avoid contact with skin or eyes. In the event of contact, rinse affected part of your body with water for at least 15 minutes. Seek medical attention if reddening or irritation occurs. Keep container tightly closed. Store in a cool, dry location away from incompatible materials. Clean-up spills promptly. This product will not contribute to the intensity of a fire.

TARGET ORGANS: Skin, eyes.

WHMIS SYMBOLS: Not applicable.

16. OTHER INFORMATION

PREPARED BY:

CHEMICAL SAFETY ASSOCIATES, Inc.
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619/565-0302

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. AMEREX Corporation assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, AMEREX Corporation assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

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DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on an MSDS. Some of these which are commonly used include the following:

CAS #: This is the Chemical Abstract Service Number which uniquely identifies each constituent. It is used for computer-related searching.

EXPOSURE LIMITS IN AIR:

ACGIH - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits.

TLV - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average (TWA), the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level. Skin adsorption effects must also be considered.

OSHA - U.S. Occupational Safety and Health Administration.

PEL - Permissible Exposure Limit - this exposure value means exactly the same as a TLV, except that it is enforceable by OSHA.

The **IDLH** - Immediately Dangerous to Life and Health level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

The **DFG** - MAK is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (OSHA). NIOSH issues exposure guidelines called Recommended Exposure Levels (RELs). When no exposure guidelines are established, an entry of **NE** is made for reference.

FLAMMABILITY LIMITS IN AIR: Much of the information related to

TOXICOLOGICAL INFORMATION: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD50** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC50** - Lethal Concentration (gases) which kills 50% of the exposed animals, ppm concentration expressed in parts of material per million parts of air or water; **mg/m3** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Data from several sources are used to evaluate the cancer-causing potential of the material. The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. **IARC** and **NTP** rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom; **TD0**, **LDLo**, and **LD0**, the lowest dose to cause death.

REGULATORY INFORMATION

This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazard Information System. **DOT** and **CTC** are the U.S. Department of Transportation and the Canadian Transportation Commission, respectively. These are: **Superfund Amendments and Reauthorization Act (SARA)**; the **Toxic Substances Control Act (TSCA)**; Marine Pollutant status

fire and explosion is derived from the National Fire Protection Association (NFPA). LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

according to the DOT; California's Safe Drinking Water Act (Proposition 65); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund); and various state regulations. This section also includes information on the precautionary warnings which appear on the materials package label.

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FIRE EXTINGUISHER
Cautions and Warnings

Fire extinguishers are designed and produced for the specific purpose of providing a safe and efficient safety tool to be used only in the fighting of fires. Improper or careless use may cause severe bodily injury and/or property damage.

Contents are under pressure which is necessary to deliver the contained extinguishing agent to the fire source. Please take note of the following safety information:

- Contents are under pressure. Do not puncture, incinerate, or discharge into another person's face.
- Do not store at high temperatures above 120 degrees F or 49 degrees C.
- Keep away from small children.
- Do not use if the extinguisher appears to be damaged or corroded.
- Avoid inhaling the extinguishing agent. Avoid inhaling smoke and fumes - all fires release toxic substances that are harmful. DO NOT remain in a closed area after use; evacuate the area immediately and ventilate thoroughly before re-entering.
- Although extinguishing agents are non-toxic when used properly, contact with them may cause irritation to eyes, nose, throat, and other allergic symptoms.

Refer to specific extinguishing agent material safety data sheet for additional information.

**AVOID INHALING SMOKE AND FUMES; ALL FIRES
RELEASE TOXIC SUBSTANCES THAT ARE HARMFUL.
DO NOT REMAIN IN CLOSED AREA AFTER USE.
VENTILATE CLOSED AREAS BEFORE RETURNING.**

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