# SAFETY DATA SHEET

## Section 1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|---|---|
| Product Name: | Purple K Dry Chemical Fire Extinguisher |
| Other Identifiers: | Potassium Bicarbonate, KDC, PK |
| Product Code(s): | CH 515, 517, 542, 553 |
| Model Code(s) for Extinguishers: | 410, 415, 416, 452,460, 466, 469, 472, 478, 479, 483, 486, 490, 493, 497, 566, 569, 575, 580, 584,591, 595, 599, 652, 688, 689, 690, 691, 693, 722, 762, 764, 783, V10PK, V13PK, V25PK, VH25PK, V50PK, VS50PK |
| Recommended Use: | Fire suppression, agriculture, medical<br>Not for human or animal drug use. |
| Manufacturer: | AMEREX CORPORATION |
| Internet Address: | www.amerex-fire.com |
| Address: | 7595 Gadsden Highway, P.O. Box 81<br>Trussville, AL 35173-0081 |
| Company Telephone: | (205) 655-3271 |
| E-mail Address: | info@amerex-fire.com |
| Emergency Contacts: | Chemtrec 1(800) 424-9300 or<br>(703) 527–3887 |
| Revised: | March 13, 2018 |

## Section 2. HAZARDS IDENTIFICATION

**GHS – Classification**

| Health | Environmental | Physical |
|---|---|---|
| Acute Toxicity: Category 5 | None | None |
| Skin Corrosion/Irritation: Category 3 | None | None |
| Skin Sensitization: NO | None | None |
| Eye: Category 2A | None | Warning |
| STOT – Category 3 | None | Warning |
| Carcinogen: Category None | None | None |

**GHS – Label Symbol(s):**

**If Pressurized: Gas Under Pressure**

**GHS – Signal Word(s):** **Warning**

**Other Hazards Not Resulting in Classification:** Mica may contain small quantities of quartz (crystalline silica). 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. In the case of normal use of this product, exposure to silica should be nil.

The attapulgite clay used in this product has a fiber length of less than 5um; therefore, the clay is not considered to be carcinogenic to animals or humans.

### GHS – Hazard Phrases

| GHS Hazard | GHS Codes(s) | Code Phrase(s) |
|---|---|---|
| **Physical** | H229 | *- Contents under pressure; may explode if heated. |
| **Health** | H316<br>319<br>335 | Causes mild skin irritation<br>Causes serious eye irritation<br>May cause respiratory irritation |
| **Environmental** | None | |
| **Precautionary:** | | |
| General | P101 | If medical advice is needed, have product container or label at hand |
| Prevention | P251<br>261<br>264<br>270<br>280 | Do not pierce or burn, even after use.<br>Avoid breathing dust/fumes/gas/mist/vapours/spray.<br>Wash exposed skin thoroughly after handling.<br>Do not eat, drink or smoke when using this product.<br>Wear protective gloves/protective clothing/eye protection/face protection. |
| Response | P312<br>321<br>302+352<br>304+340<br>305+351+338<br><br>332+313<br>342+311<br>337+313 | Call a doctor if you feel unwell.<br>Specific treatment (see Section 4. First Aid Measures)<br>IF ON SKIN: Wash with plenty of water.<br>IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.<br>If skin irritation occurs: Get medical advice/attention.<br>If experiencing respiratory symptoms: Call a doctor.<br>If eye irritation persists get medical advice/attention. |
| Storage | P410+403 | *- Protect from sunlight. Store in well-ventilated place. |
| Disposal | P501 | Dispose of contents through a licensed disposal company. Contaminated container should be disposed of as unused product. |

*- If under pressure

## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | EC No. | REACH Reg. No. | CAS-No. | Weight % |
|---|---|---|---|---|
| Potassium Bicarbonate (potassium hydrogen carbonate)-may contain minor calcium carbonate | 206-059-0 | 01-2119532640-48-0002 | 298-14-6 | >90 |
| Attapulgite clay | 601-805-5 | Not Available | 12174-11-7 | >4 |
| Mica-potassium aluminum silicate | NA | Not Available | 12001-26-2 | >2 |
| Silicone oil methyl hydrogen polysiloxane | NA | Not Available | 63148-57-2 | <0.5 |
| Violet 23 pigment oxazine dye | 228-767-9 | Not Available | 6358-30-1 | <0.2 |

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| Adverse health effects and symptoms: | A mild irritant 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 gastric distress. |

## Section 4. FIRST AID MEASURES

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| Eye Exposure: | Causes irritation. Irrigate eyes with water and repeat until pain free. Seek medical attention if irritation continues, or if vision changes occur. |
| Skin Exposure: | May cause skin irritation. In case of contact, wash with plenty of soap and water. Seek medical attention if irritation persists. |
| Inhalation: | May cause irritation, along with coughing. If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if irritation persists. |
| Ingestion: | Overdose symptoms may include numbness or tingling in hands or feet, uneven heart rate, paralysis, feeling faint, chest pain or heavy feeling, pain spreading to the arm or shoulder, nausea, sweating, general ill feeling, or seizure (convulsions). If victim is conscious and alert, give 2-3 glasses of water to drink. If conscious, 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. |
| 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

| | |
|---|---|
| Flammable Properties: | Not flammable |
| Flash Point: | Not determined |
| Suitable Extinguishing Media: | Non-combustible. Use extinguishing media suitable for surrounding conditions. |

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| Hazardous Combustion Products: | Carbon oxides |
| Explosion Data: | |
| Sensitivity to Mechanical Impact: | Not sensitive |
| Sensitivity to Static Discharge: | Not sensitive |
| Unusual fire/explosion hazards: | In a fire this material may decompose, releasing oxides of carbon, potassium and nitrogen, and CO2 (see Section 10). |
| Protective Equipment and Precautions for Firefighters: | As in any fire, wear self-contained breathing apparatus (pressure-demand, NIOSH approved or equivalent), and full protective gear. |

## Section 6. ACCIDENTAL RELEASE MEASURES

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|---|---|
| Personal Precautions: | Avoid contact with skin, eyes, and clothing. |
| Personal Protective Equipment: | Minimum - safety glasses, gloves, and a dust respirator. |
| Emergency Procedures: | NA |
| Methods for Containment: | Prevent further leakage or spillage if safe to do so. |
| Methods for Clean Up: | Avoid dust formation; clean up released material using vacuum or wet sweep and shovel to minimize generation of dust. Bag and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete. |
| Other: | If product is contaminated, use PPE and containment appropriate to the nature of the most toxic chemical or material in the mixture. |

## Section 7. HANDLING AND STORAGE

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| Personal Precautions: | Use appropriate PPE when handling or maintaining equipment, and wash thoroughly after handling (see Section 8). |
| Conditions for Safe Storage/Handling: | Keep product in original container or extinguisher. Prevent falling. Do not allow near heat sources. Contents may be under pressure – inspect extinguisher consistent with product labeling to ensure container integrity. |
| Incompatible Products: | Do not mix with other extinguishing agents, particularly ammonium phosphate. Incompatible with strong oxidizing agents and strong acids. Do not store in high humidity. |

Hazardous Decomposition Products: No data available.
Hazardous Polymerization: Will not occur

## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Chemical Name | OSHA PEL | ACGIH TLV | DFG MAK * | EU BLV |
|---|---|---|---|---|
| Potassium bicarbonate | PNOC**<br>Total dust, 15 mg/m$^3$<br>Respirable fraction, 5 mg/m$^3$ | PNOC<br>Total dust, 10 mg/m$^3$<br>Respirable fraction, 3 mg/m$^3$ | PNOC<br>Total dust, 4 mg/m$^3$<br>Respirable fraction, 1.5 mg/m$^3$ | NA |
| Mica | 6 mg/m$^3$ | 3 mg/m3 | ------- | NA |
| Attapulgite Clay | PNOC<br>Total dust, 15 mg/m$^3$<br>Respirable fraction, 5 mg/m$^3$ | PNOC<br>Total dust, 10 mg/m$^3$<br>Respirable fraction, 3 mg/m$^3$ | PNOC<br>Total dust, 4 mg/m$^3$<br>Respirable fraction, 1.5 mg/m$^3$ | NA |
| Silicone oil | NR*** | NR | NR | NA |
| Violet 23 pigment | NR | NR | NR | NA |

*German regulatory limits **PNOC = Particulates not otherwise classified (ACGIH) also known as Particulates not otherwise regulated (OSHA) *** NR = Not Regulated. All values are 8 hour time weighted average concentrations.

Engineering Controls: Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment – PPE Code E:

The need for respiratory protection is not probable during short-term exposure. PPE use during production process must be independently evaluated.




Eye/Face Protection: Tightly fitting safety goggles
Skin and Body Protection: Wear protective gloves/coveralls
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Use P100 respirators for limited exposure, use air-purifying respirator (APR) with high efficiency particulate air (HEPA) filters for prolonged exposure. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be

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| | provided in accordance with current safety and health requirements. The need for respiratory protection is not likely for short-term use in well ventilated areas. |
| Hygiene Measures: | Good personal hygiene practice is 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

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|---|---|
| Appearance: | Light purple powder, finely divided odorless solid |
| Molecular Weight: | $KHCO_3$: 100.11 g/mol |
| Odor: | No information available |
| Odor Threshold: | No information available |
| Decomposition Temperature $^oC$: | $KHCO_3$: 100 - 110 |
| Freezing Point $^oC$: | No information available |
| Initial Boiling Point $^oC$: | No information available |
| Physical State: | Crystalline Powder |
| pH: | Approximately 8.2 |
| Flash Point $^oC$: | None |
| Autoignition Temperature $^oC$: | None |
| Boiling Point/Range $^oC$: | Not Applicable |
| Melting Point/Range $^oC$: | $KHCO_3$: 100 – 110 |
| Flammability: | Not Flammable |
| Flammability Limits in Air $^oC$: | Upper – Not Flammable; Lower-Not Flammable |
| Explosive Properties: | None |
| Oxidizing Properties: | None |
| Volatile Component (%vol) | Not Applicable |
| Evaporation Rate: | Not Applicable |
| MMHG @ 37.8 C : | Not Applicable |
| Vapor Density: | Not Applicable |
| Vapor Pressure: | < 1 mm Hg |
| Specific gravity: | Approximately 2.17; 0.88 in aerated condition |
| Solubility: | Product is coated, not immediately soluble in water |
| Partition Coefficient: | No Information Available |
| Viscosity: | Not Applicable |

## Section 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability: | Stable under recommended storage and handling conditions. |
| Reactivity: | None |

| | |
|---|---|
| Incompatibles: | Strong oxidizing agents; Strong acids; Ammonium phosphate, lithium. Protect from moisture |
| Conditions to Avoid: | Storage or handling near incompatibles. |
| Hazardous Decomposition Products: | Carbon, nitrogen, and potassium oxides, CO2. Heat of fire may release carbon monoxide. |
| Possibility of Hazardous Reactions: | None |
| Hazardous Polymerization | Does not occur |

## Section 11. TOXICOLOGICAL INFORMATION

| | |
|---|---|
| Likely Routes of Exposure: | Inhalation, skin and eye contact. |
| Symptoms: | |
| Immediate: | |
| Inhalation: | Irritation, coughing. |
| Eyes: | Irritation. |
| Skin: | Irritation. |
| Delayed: | Symptoms appear to be relatively immediate |
| Acute Toxicity: | Relatively non-toxic. |
| Chronic Toxicity: | |
| Short-term Exposure: | None known. |
| Long-term Exposure: | As with all dusts, pneumoconiosis, or “dusty lung” disease, may result from chronic exposure. |

**Acute Toxicity Values - Health**

| Chemical Name | LD50 | | LC50 (Inhalation) |
|---|---|---|---|
| | Oral | Dermal | |
| Potassium bicarbonate | 2825 mg/kg (rat) | >2000 mg/kg (rabbit) | 4.96 mg/l (rat) |
| Mica | None | None | None |
| Attapulgite clay | None | None | None |
| Silicone oil | None | None | None |
| Violet 23 pigment | None | None | None |

| | |
|---|---|
| Reproductive Toxicity: | This product’s ingredients are not known to have reproductive or teratogenic effects. |
| Target Organs and Effects (TOST): | Respiratory system (mild irritant). This product is a mild irritant to epithelial tissue, (eyes, mucous membranes, skin) and may aggravate dermatitis. No information was found indicating the product causes sensitization. |

### Other Toxicity Categories

| Chemical Name | Germ Cell Mutagenicity | Carcino-genicity | Repro-ductive | TOST Single Exp | TOST Repeated Exp | Aspiration |
|---|---|---|---|---|---|---|
| Potassium Bicarbonate12 | None | None | None | Cat 3 | None | None |
| Attapulgite clay | None | None | None | None | Kidney | None |
| Mica | None | None | None | None | None | None |
| Silicone oil | None | None | None | None | None | None |
| Violet 23 pigment oxazine dye | None | None | None | None | None | None |

## Section 12. ECOLOGICAL INFORMATION

Ecotoxicity: Low risk.
Persistence/Degradability: Degrades rapidly in humid/wet environment.
Probability of rapid biodegradation: $KHCO_3$ Est: 0.718 (Rapid)
Anaerobic biodegradation probability: $KHCO_3$ Est: 0.836 (Rapid)
Bioaccummulation potential: Low.
Bioconcentration factor: $KHCO_3$: 3.16 L/kg
Bioaccummulation Potential: Low. Est biotransformation half-life: 0.012 days.
Mobility in soil: Log Koc: Est -2.062
Log Koa: Not applicable
Log Kaw: Not applicable
Fraction sorbed to airborne particulates: 0.886
Atmospheric oxidation half-life: 20.6 days
Level III Fugacity Model: 62% soil, 37% water, <0.1% sediment, air
Other Adverse Ecological Effects: No other known effects at this time

### Aquatic Toxicity Values - Research

| Chemical Name | Acute (LC50) | Chronic (LC50) |
|---|---|---|
| Potassium bicarbonate | Cat IV; 1300 mg/l (rainbow trout), 96 hr.<br>630 mg/l (water flea) 48 hr., mortality min. at 94 mg/l<br>260 mg/l (flathead minnow), mortality min. dose | N/A |
| Mica | N/A | N/A |
| Attapulgite clay | N/A | N/A |
| Silicone oil | N/A | N/A |
| Violet 23 pigment | N/A | N/A |

### Aquatic Toxicity Values – Calculated Estimates

| Chemical Name | Acute (LC50) | Chronic (LC50) |
|---|---|---|
| Potassium bicarbonate | 8259 mg/L Fish 96 hr;<br>3737 mg/l Daphnid 48 hr; | 1088 mg/L Gr. Algae 96 hr |
| Mica | N/A | N/A |
| Attapulgite clay | N/A | N/A |
| Silicone oil | N/A | N/A |
| Violet 23 pigment | N/A | N/A |

## Section 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| Safe Handling | Use appropriate PPE when handling, and wash thoroughly after handling (see Section 8). |
| Waste Disposal Considerations | Dispose in accordance with federal, state, and local regulations. |
| Contaminated Packaging | Dispose in accordance with federal, state, and local regulations. |

NOTES:
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. TRANSPORT INFORMATION

| | |
|---|---|
| UN Number: | NA |
| UN Proper Shipping Name: | NA |
| Transport Hazard Class: | NA |
| Packing Group: | NA |
| Marine Pollutant?: | NO |
| | |
| IATA | Not regulated |
| DOT | Not regulated |

NOTES:
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.

Special Precautions for Shipping:
The transportation information above covers the Purple K dry chemical extinguisher agent as shipped in bulk containers and not when contained in fire extinguishers or fire extinguisher systems. If 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 LIMITED QUANTITY when pressurized to less than 241 psig and when shipped via highway or rail. UN Class 2.2. Non-Flammable Gas, when shipping via air. Packing Group – N/A

## Section 15. REGULATORY INFORMATION

**International Inventory Status**: All ingredients are on the following inventories

| Country(ies) | Agency | Status |
|---|---|---|
| United States of America | TSCA | Yes |
| Canada | DSL | Yes |
| Europe | EINECS/ELINCS | Yes |
| Australia | AICS | Yes |
| Japan | MITI | Yes |
| South Korea | KECL | Yes |

**REACH Title VII Restrictions**: No information available

| Chemical Name | Dangerous Substances | Organic Solvents | Harmful Substances Whose Names Are to be Indicated on Label | Pollution Release and Transfer Registry (Class II) | Pollution Release and Transfer Registry (Class I) | Poison and Deleterious Substances Control Law |
|---|---|---|---|---|---|---|
| Potassium Bicarbonate | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |

| Component | ISHA – Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying | ISHA – Harmful Substances Requiring Permission | Toxic Chemical Classification Listing (TCCL) – Toxic Chemicals | Toxic Release Inventory (TRI) – Group I | Toxic Release Inventory (TRI) – Group II |
|---|---|---|---|---|---|
| Potassium Bicarbonate 298-14-6 (>93) | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Attapulgite clay 298-14-6 (>4) | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Mica-potassium aluminum silicate 120001-26-2 (>2) | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Silicone oil methyl hydrogen polysiloxane 63148-57-2 (<0.5) | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Violet 23 pigment oxazine dye 6358-30-1 (<0.2) | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |

**European Risk and Safety phrases**:

| | | |
|---|---|---|
| EU Classification: | XN | Irritant |
| R Phrases: | 20 | Harmful by inhalation. |
| | 36/37 | Irritating to eyes, respiratory system. |
| S Phrases: | 22 | Do not breath 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.
36 Wear suitable protective clothing.

**U.S. Federal Regulatory Information**:

**SARA 313**:
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) - This product does not contain and chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.
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).

**SARA 311/312 Hazard Categories**:

| | |
|---|---|
| Acute Health Hazard | No |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard-* | Yes |
| Reactive Hazard | No |

* - Only applicable if material is in a pressurized extinguisher.

Clean Water/Clean Air Acts:
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42) or Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61) and Section 112 of the Clean Air Act Amendments of 1990.

**U.S. 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.

**Other**:

| | |
|---|---|
| Mexico – Grade | No component listed |
| Canada – WHMIS Hazard Class | No component listed |

## Section 16. OTHER INFORMATION

This SDS 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.

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|---|---|
| Issuing Date | 17-June-2012 |
| Revision Date | 13-March-2018 |
| Revision Notes | None |

The information herein is given in good faith but no warranty, expressed or implied, is made.
Updated by William F. Garvin, CIH.