

MATERIAL SAFETY DATA SHEET

Section 1. Chemical product and company identification

Product Name:	Purple K Dry Chemical Fire Extinguishant
Synonym:	Potassium Bicarbonate, KDC, PK
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:	January, 2015

Section 2. Hazard identification and emergency overview

Emergency overview: Light purple, 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 coughing, shortness of breath, and irritation of the lungs, eyes, and skin. Ingestion, although unlikely, may cause gastric distress.

Exposure guidelines:

Ingredients	OSHA PEL	ACGIH TLV	DFG MAK *
Potassium bicarbonate	PNOC** Total dust, 15 mg/m ³ Respirable fraction, 5 mg/m ³	PNOC Total dust, 10 mg/m ³ Respirable fraction, 3 mg/m ³	PNOC Total dust, 4 mg/m ³ Respirable fraction, 1.5 mg/m ³
Mica	6 mg/m ³	3 mg/m ³	-----
Fullers Earth	PNOC Total dust, 15 mg/m ³ Respirable fraction, 5 mg/m ³	PNOC Total dust, 10 mg/m ³ Respirable fraction, 3 mg/m ³	PNOC Total dust, 4 mg/m ³ Respirable fraction, 1.5 mg/m ³
Silicone oil	NR***	NR	NR
Violet 23 pigment	NR	NR	NR

*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.

Hazard symbols: WHMIS (Canadian workplace hazardous materials identification system)

D2B may irritate eyes, mucous membranes, or skin

Section 3. Composition/information on ingredients

Name/Compound	Weight %	CAS #
Potassium bicarbonate (potassium hydrogen carbonate)- may contain minor calcium carbonate	>93	298-14-6
Fullers earth magnesium aluminum silicate-	>4	8031-18-3
Mica potassium aluminum silicate	>2	12001-26-2
Silicone oil methyl hydrogen polysiloxane	< 0.5	63148-57-2
Violet 23 pigment oxazine dye	< 0.2	6358-30-1

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. If conscious, 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

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 carbon, potassium and nitrogen (see Section 10).

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. 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, particularly ammonium phosphate. Do not store in high humidity.

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 or full-face APR.

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: light purple powder, finely divided odorless solid.

Specific gravity: Approximately .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 9 – 10 for a 10% solution

Boiling point: not applicable

No explosive or oxidizing properties

Section 10. Stability and reactivity

Stability: stable

Incompatibles: strong acids, ammonium phosphate, lithium.

Decomposition products: heat of fire may release carbon monoxide, carbon dioxide, and oxides of potassium and nitrogen.

Possibility of hazardous reactions: none

Section 11. Toxicological information

Acute toxicity: Potassium bicarbonate LD₅₀ (rat): unknown, testing has not been conducted. Relatively non-toxic.
Target organs in man: respiratory system. 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.

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 (potassium bicarbonate)

Environmental and biodegradation. Ready biodegradability prediction: yes

Solubility - 0.75⁶ @ 25°C

Probability of rapid biodegradation:

0.718 (linear model) 0.894 (non-linear model)

Anaerobic biodegradation probability: 0.836 (linear model)

Bioaccumulation est. - biotransformation half-life: 0.012 days

Ecotoxic effects - Product is relatively non-toxic.

Rainbow Trout: LC₅₀ - 1300 mg/L (96 hr)

Fathead Minnow: minimum dose, mortality - 260 mg/L

Water flea (*Daphnia magna*): LC₅₀ - 670 mg/L (24 hr), minimum dose, mortality - 94 mg/L

Algae: no active toxicity with aquatic plants

Behavior in environmental compartments.

Biota: log K_{ow} -4.01, does not accumulate in fat tissue

Soil: soil adsorption coefficient, K_{oc} 0.009, log K_{oc} -2.06

Water: volatilization rates - river: 4.97¹⁰ days, lake: 5.42¹¹ days

Air: particle/gas partition coefficient, K_p 0.0974 (Mackay Model)

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

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 is Limited Quantity when pressurized to less than 241 psig and when shipped via highway or rail. Use a Non-Flammable Gas label (class 2.2) when shipping via air.

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

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.
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
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. 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