



## I. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### 1.1. Identification of the preparation

Product Name: "Fire Extinguisher PKD Dry Chemical"  
"Fire Extinguisher Powder BC"  
Chemical Name: N/A – This is a mixture/preparation.  
CAS No.: N/A – This is a mixture/preparation.  
Chemical Formula: N/A – This is a mixture/preparation.  
EINECS Number: N/A – This is a mixture/preparation.

### 1.2. Use of the preparation

The intended or recommended use of this preparation is as a FIRE EXTINGUISHING AGENT.

### 1.3. Company identification

Manufacturer/Supplier: FLAG FIRE  
Address: One Stanton Street, Marinette, WI 54143-2542  
Prepared by: Safety and Health Department  
Phone: 715-732-3465  
Internet/Home Page: <http://www.flagfire.com>  
Date of Issue: September, 2009

### 1.4. Emergency telephone

CHEMTREC 800-424-9300 or 703-527-3887

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

- 2.1. Ingredient Name: Potassium Bicarbonate.  
Chemical Formula:  $\text{KHCO}_3$ .  
CAS No.: 298-14-6.  
EINECS Number: 206-059-0.  
Concentration, Wt %: 85-95 %.  
Hazard Identification: See Heading 3.
- Ingredient Name: Magnesium Aluminum Silicate (Attapulgite Clay or Fuller's Earth).  
Chemical Formula:  $\text{Mg}_x\text{Al}_y(\text{SiO}_4)_z$ .  
CAS No.: 8031-18-3.  
EINECS Number: (a).  
Concentration, Wt %: 1-5 %.  
Hazard Identification: See Heading 3.
- Ingredient Name: Mica, Muscovite.  
Chemical Formula: Mixture/preparation.  
CAS No.: 12001-26-2.  
EINECS Number: (a).  
Concentration, Wt %: 1-5 %.  
Hazard Identification: See Heading 3.
- Ingredient Name: Silica Gel.  
Chemical Formula:  $-\text{[OSi(O)]-(H}_2\text{O)}_x$ .  
CAS No.: 112926-00-8.  
EINECS Number: (b).  
Concentration, Wt %: 0-1 %.  
Hazard Identification: See Heading 3.
- Ingredient Name: Methyl Hydrogen Polysiloxane.  
Chemical Formula: Mixture/preparation.  
CAS No.: 63148-57-2.  
EINECS Number: (b).  
Concentration, Wt %: 0-1 %.  
Hazard Identification: See Heading 3.

Ingredient Name:	Purple Pigment
Chemical Formula:	Mixture/preparation.
CAS No.:	Mixture/preparation.
EINECS Number:	Mixture/preparation.
Concentration, Wt %:	<1 %.
Hazard Identification:	See Heading 3.

Fire Extinguishers contain compressed air to ensure a high velocity discharge of product.

- 2.2. (i) There are NO substances presenting a health or environmental hazard within the meaning of Directive 67/548/EEC, in concentrations equal to or greater than those laid down in the table set out in Article 3(3) of Directive 1999/45/EC, nor with lower limits given in Annex I to Directive 67/548/EEC or in Annexes II, III or V to Directive 1999/45/EC.
- (ii) There are NO substances for which there are Community workplace exposure limits, which are not already included in (i) above.
- (a) EINECS does not include most naturally occurring raw materials. See: 67/548/EEC, article 13; 79/831/EC; and 81/437/EC.
- (b) EINECS does not include synthetic polymers (These are registered in EINECS under their building blocks, monomers.). See: 67/548/EEC, article 13; 79/831/EC; and 81/437/EC.

NOTE: Unless a component presents a severe hazard, it does not need to be considered in the MSDS if the concentration is less than 1%. [According to Directive 1999/45/EC.]

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### 3. HAZARDS IDENTIFICATION

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#### FOR HUMANS:

##### Product:

This preparation is not classified as dangerous according to Directive 1999/45/EC.

##### Limit Values for Exposure:

Nuisance dust limit:	OSHA TWA:	15 mg/m <sup>3</sup>
	ACGIH TLV-TWA:	10 mg/m <sup>3</sup>

Neither this preparation nor the substances contained in it have been listed as carcinogenic by National Toxicology Program, I.A.R.C., or OSHA.

Silica Gel is a Synthetic Amorphous Silica which is considered a nuisance dust and no medical conditions are abnormally aggravated by this product.

AS PART OF GOOD INDUSTRIAL AND PERSONAL HYGIENE AND SAFETY PROCEDURE, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes, and clothing.

#### SIGNS AND SYMPTOMS:

##### Acute Exposure:

Eye Contact:	Mildly irritating for short periods of time.
Skin Contact:	May be mildly irritating.
Inhalation:	May irritate the respiratory tract. Transient cough, shortness of breath.
Ingestion:	Not an expected route of entry.

Chronic Overexposure: No data available.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None known.

#### FOR ENVIRONMENT:

No data available.

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### 4. FIRST AID MEASURES

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Eye Contact:	Wash with water for a minimum of 15 minutes. If irritation persists seek medical attention.
Skin Contact:	Wash affected area with soap and water. If irritation persists seek medical attention.
Inhalation:	Remove from exposure. If irritation persists seek medical attention.
Ingestion:	Dilute by drinking large quantities of water.

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### 5. FIRE-FIGHTING MEASURES

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This preparation is an extinguishing media.

There are NO extinguishing media which must not be used for safety reasons.

NO special protective equipment is needed for fire-fighters.

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## 6. ACCIDENTAL RELEASE MEASURES

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For personal protection: Prevent skin and eye contact, see Heading 8.

Clean up: Sweep up and reuse or place in a closed container for disposal, see Heading 13.

NO harm to the environment is expected from an accidental release of this preparation.

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## 7. HANDLING AND STORAGE

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### 7.1. Handling

Care should be taken in handling all chemical substances and preparations.

See incompatibility information in Heading 10.

### 7.2. Storage

NO special conditions are needed for safe storage.

See incompatibility information in Heading 10.

Store in original container or FLAG FIRE fire extinguisher. Keep tightly closed until used.

There is minimal danger to the environment from a storage release.

### 7.3. Specific use

The intended or recommended use of this preparation is as a FIRE EXTINGUISHING AGENT.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1. Exposure limit values

Limit Values for Exposure

Nuisance dust limit:	OSHA TWA:	15 mg/m <sup>3</sup>
	ACGIH TLV-TWA:	10 mg/m <sup>3</sup>

### 8.2. Exposure controls

#### 8.2.1. Occupational exposure controls

##### 8.2.1.1. Respiratory protection

Mechanical ventilation is preferred.

Dust mask where dustiness is prevalent, or TLV is exceeded. Use mechanical filter respirator if exposure is prolonged.

##### 8.2.1.2. Hand protection

None normally needed. Use impervious gloves if irritation occurs.

##### 8.2.1.3. Eye protection

Use safety glasses with side shields or safety goggles as mechanical barrier for prolonged exposure.

##### 8.2.1.4. Skin protection

No special equipment is needed.

#### 8.2.2. Environmental exposure controls

No special controls are needed.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1. General information

Appearance: Purple Crystal.  
 Odor: None.

### 9.2. Important health, safety, and environmental information

pH: Not determined.  
 Boiling point/boiling range: Not applicable.  
 Flash point: None.  
 Flammability (solid/gas): Not flammable.  
 Explosive properties: Not explosive.  
 Oxidizing properties: Not an oxidizer.  
 Vapor Pressure: Not applicable.  
 Relative Density (Water = 1): 2.16.  
 Solubility:  
 – Water solubility: 23 g/ 100 mL.  
   Potassium bicarbonate: 333 g/L @ 20 °C.  
 – Fat solubility: Not soluble.  
 Partition coefficient,  
   n-octanol/water: Not applicable.  
 Viscosity: Not applicable.  
 Vapor density (Air = 1): Not applicable.  
 Evaporation rate: Not applicable.

### 9.3. Other information

Auto-ignition temperature: Does not ignite.

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## 10. STABILITY AND REACTIVITY

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### 10.1. Conditions to avoid

There are NO known conditions such as temperature, pressure, light, shock, etc., which may cause a dangerous reaction.

### 10.2. Materials to avoid

Strong acids, NaK alloy, and NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub>.

### 10.3. Hazardous decomposition products

Normally stable, decomposes if heated above 100-120 °C.  
 Hazardous polymerization will NOT occur.  
 Combustion or decomposition products include carbon dioxide and potassium oxide.

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## 11. TOXICOLOGICAL INFORMATION

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This product has not been tested for toxicological effects. Product is treated as a nuisance dust.

### Components:

#### Potassium Bicarbonate:

LD50 (rat) = >2000 mg/kg.

Skin irritation: Not irritating (index = 0,5/8).

Eye irritation: Not irritating (index = 7,9/110).

May be irritating to mucous membranes and upper respiratory tract.

May be harmful if swallowed in large amounts.

#### Mica:

May be irritating to eyes, skin, or mucous membranes.

#### Silica Gel:

Toxicity Data: Oral (rat) LD 50 >4500 mg/kg.

Toxicity Data: Inhalation (rat) LC 50 >2 mg/hr.

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**12. ECOLOGICAL INFORMATION**

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**12.1. Ecotoxicity**

Not determined.

**12.2. Mobility**

Not determined.

**12.3. Persistence and degradability**

Not determined.

**12.4. Bioaccumulative potential**

Not determined.

**12.5. Other adverse effects**

Ozone depletion potential:	None.
Photochemical ozone creation potential:	None
Global warming potential:	Carbon dioxide from decomposition or reaction is a global warming gas.

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**13. DISPOSAL CONSIDERATIONS**

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No harm to the environment is expected from this preparation.

Dispose of in compliance with national, regional, and local provisions that may be in force.

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**14. TRANSPORT INFORMATION**

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Hazard Class or Division: Fire Extinguisher, Class 2.2.  
UN No. 1044.

For additional transport information, contact Flag Fire.

No harm to the environment is expected from this preparation.

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**15. REGULATORY INFORMATION**

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EU Classification: This preparation is not classified as dangerous according to Directive 1999/45/EC.

Nuisance dust limit:	OSHA TWA:	15 mg/m <sup>3</sup>
	ACGIH TLV-TWA:	10 mg/m <sup>3</sup>

EINECS Status: All components are included in EINECS inventories or are exempt from listing.

EPA TSCA Status: All components are included in TSCA inventories or are exempt from listing.

Canadian DSL (Domestic Substances List): All components are included in the DSL or are exempt from listing.

Environmental restrictions: None are known.

Restrictions on Marketing and Use: None are known.

Refer to any other national measures that may be relevant.

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**16. OTHER INFORMATION**

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**(HMIS) HAZARDOUS MATERIAL IDENTIFICATION SYSTEM RATINGS:**

HEALTH:	<u>1</u>	4. Severe Hazard
FLAMMABILITY:	<u>0</u>	3. Serious Hazard
REACTIVITY:	<u>0</u>	2. Moderate Hazard
		1. Slight Hazard
		0. Minimal Hazard

**(WHMIS) CANADIAN WORKPLACE HAZARDOUS MATERIAL IDENTIFICATION SYSTEM RATINGS:**

This product is rated **D2B** **Product may irritate skin or mucous membrane.**  
A Fire Extinguisher charged with Air is rated **A** **Compressed Gas.**

Format is from directive 2001/58/EC.

EINECS data is from <http://exb.jrc.it/existing-chemicals/>

The EU Classification has been changed in accordance with Directive 1999/45/EC.

Toxicological information added from the EINICS ESIS (Existing Substances Information System).

A rating under WHMIS has been added, following the Canadian guidelines.

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**17. DISCLAIMER**

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THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT, BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. FLAG FIRE SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT.

N/A = Not Applicable

NDA = No Data Available