

An explanation of the terms used herein may be found in OSHA 29 CFR 1910.1200, available from OSHA regional or area offices.

## Section 1: Product And Company Identification

Product Name: Filter Drier Cores and Filters

Company Name: Emerson Climate Technologies, Flow Control  
Address: 8100 W Florissant Avenue, St. Louis, MO 63136  
Phone No.: **800-361-9528**

Chemical Name: Sodium/Potassium/Aluminum Silicate/Steel/Fiberglass/Copper

Synonyms: Core/Core Driers/Bead Driers/Filters

Chemical Formula:  $\text{Na}_2\text{O}/\text{K}_2\text{O}/\text{MgO}/\text{Al}_2\text{O}_3/\text{SiO}_2/\text{Al}(\text{H}_2\text{PO}_4)_3$

Chemical Family: Molecular Sieve/Aluminum Oxide/Aluminum Phosphate

Trade Names: ADK, EK, BOK, BFK, ASD, ASF, SFD, TFD, ASK, H-48, HX-48, H-42, H-100, ALF, F-48, F-100, BTAS, D48, W48, UK-48, UK-100, F-100.

## Section 2: Hazards Identification

All Core/Core Drier/Bead Driers or Filters form: sealed steel can, steel shell or Sealed aluminum Foil Bags.

Internal Core or Core Filter Driers principal composition:

|                       |                                                      |
|-----------------------|------------------------------------------------------|
| Main ingredients:     | Activated Alumina (Aluminum Oxide)                   |
|                       | Molecular Sieve (Sodium/potassium Aluminum Silicate) |
| Secondary ingredient: | Activated Carbon (Charcoal)                          |
| Secondary ingredient: | Proprietary Binder.                                  |

In case of Core/Core drier/filter is opened, it could result loose beads/core/powder containing ingredients:

### Emergency Overview

**Form** : beads/pellets/binded core/ powder

**Color** : white/buff

**Odor** : none

**Hazard Summary :** Repeated or prolonged exposure may irritate eyes, skin and respiratory system. When first wetted, the product can heat up to the boiling point of water. Flood with water to cool material. Repeated and prolonged inhalation of crystalline silica in the form of quartz from occupational sources may cause cancer.

**Skin:** May cause skin irritation.  
The product gets hot as it first adsorbs water.

**Eyes:** Dust and/or product may cause eye discomfort and/or irritation seen as tearing and reddening.

**Ingestion:** The product gets hot as it first adsorbs water. Burns to moist body tissue can result if contact is prolonged.

**Inhalation:** Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Repeated and prolonged inhalation of crystalline silica in the form of quartz from occupational sources may cause cancer.

**Chronic Exposure:** Prolonged or repeated inhalation may cause lung injury/cancer.

**Primary Routes of Entry:** Contact with skin and eyes.  
Exposure may also occur via inhalation or ingestion if product dust is generated.

#### **Carcinogenicity**

NTP: Quartz (SiO<sub>2</sub>) 14808-60-7

Known carcinogen.

IARC: Quartz (SiO<sub>2</sub>) 14808-60-7

1: Human carcinogen.

ACGIH: Quartz (SiO<sub>2</sub>) 14808-60-7

A2: Suspected human carcinogen

### Section 3: Composition/Information on Ingredients

Loose beads/Core/Core drier Composition:

| Material        | (CAS/TSCA #) | Weight % |
|-----------------|--------------|----------|
| Sodium Oxide    | 1313-59-3    | <30      |
| Potassium Oxide | 12136-45-7   | <25      |
| Magnesium Oxide | 1309-48-4    | <10      |
| Aluminum Oxide  | 1344-28-1    | <45      |
| Silicon Oxide   | 7631-86-9    | <50      |
| Quartz          | 14808-60-7   | <5       |

## Section 4: First Aid Measures

- Swallowing:** If ingested in large quantities of beads or powder, then drink 2 glasses of water. Induce vomiting if the patient is conscious.
- Skin Contact:** Wash the contacted area with soap and water.
- Inhalation:** Remove the person to fresh air.
- Eye Contact:** Immediately flush eyes with water for at least 15 minutes.

## Section 5: Fire-Fighting Measures

In their fresh state, driers are not flammable. However, the used hermetic driers may contain refrigerant under high pressure. Precautions must be taken to avoid pressure releases.

- Flash Point:** Does not burn.
- Auto Ignition Temperature:** Not applicable.
- Flammable Limits:** Not flammable
- Extinguishing Media:** Unused material will not burn. Use media appropriate for surrounding fire.

### Special Fire Fighting Procedures:

Depends on the use of the material. Used material may contain products of a hazardous nature. The user of this product must identify the hazards of the retained material and inform the fire fighters of these hazards.

## Section 6: Accidental Release

In case of Core/Core drier/filter opened, it could result loose beads/core/powder that must be handled with following precautions:

**Personal precautions:** For personal protection, see section 8.

**Environmental precautions:** No special environmental precautions required.

**Methods for cleaning up:** Sweep, shovel or vacuum spilled product into appropriate containers (do not use a vacuum if material has contacted a hydrocarbon material).

Pick up and arrange disposal without creating dust.

Never return spills in original containers for re-use.

Spilled product should be disposed of in accordance with all applicable government regulations.

## Section 7: Handling and Storage

In case of Core/Core drier/filter opened, it could result loose beads/core/powder that must be handled accordingly:

### **Handling**

Handling : Handle and open container with care.

Avoid dust formation.

Avoid contact with skin and eyes.

Provide an electrical ground connection during loading and transfer operations to avoid static discharge in an explosive atmosphere and to prevent persons handling the product from receiving static shocks.

### **Storage**

Requirements for storage areas and containers: Store in original container.

Keep in a dry place.

## Section 8: Exposure Controls/Personal Protection Information

In case of Core/Core drier/filter opened, it could result loose beads/core/powder where certain measures should be taken:

**Respiratory Protection:** A NIOSH/MSHA approved respirator for protection against dust, mist or vapor is recommended for operations when the permissible exposure limit might be exceeded.

### **Ventilation**

**Local Exhaust:** Local exhaust ventilation is recommended for operations where the permissible exposure limit might be exceeded.

**Mechanical:** Not applicable. See local exhaust.

**Special:** Not applicable. See local exhaust.

**Other:** Not applicable. See local exhaust.

**Protective Gloves:** Use gloves to avoid prolonged skin contact.

**Eye Protection:** Safety glasses or goggles selected as per OSHA 29 CFR 1919.133.

**Other Protective Equipment:** Select in accordance with OSHA 1910.132 and 1910.133.

# Safety Data Sheet

Date of SDS: 06/05/2015

## Threshold Limit Value:

| Material                     | (CAS #)    | Value                                     | Control Parameters                                                                                                                                                                                                  | Base:Updated                                                                              |
|------------------------------|------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Magnesium Oxide              | 1309-48-4  | TWA :<br>Time weighted average            | 10 mg/m <sup>3</sup><br>Respirable Fraction                                                                                                                                                                         | ACGIH:US. ACGIH<br>Threshold Limit Values:2008                                            |
| Magnesium Oxide              | 1309-48-4  | TWA :<br>Time weighted average            | 10 mg/m <sup>3</sup><br>Particulado Total                                                                                                                                                                           | Z1A:US. OSHA Table Z-1-A<br>(29 CFR 1910.1000):1989                                       |
| Magnesium Oxide              | 1309-48-4  | PEL :<br>Permissible Exposure limit       | 15 mg/m <sup>3</sup> :<br>Particulado Total                                                                                                                                                                         | OSHA_TRANS:US.<br>OSHA Table Z-1<br>Limits for Air Contaminants<br>(29CFR 1910.1000):2006 |
| Aluminum Oxide (non fibrous) | 1344-28-1  | TWA :<br>Time weighted average            | 1 mg/m <sup>3</sup><br>Respirable Fraction                                                                                                                                                                          | ACGIH:US. ACGIH<br>Threshold Limit Values:2009                                            |
| Aluminum Oxide (non fibrous) | 1344-28-1  | PEL :<br>Permissible Exposure limit       | 15 mg/m <sup>3</sup> : Total Dust<br>5 mg/m <sup>3</sup> : Respirable Fraction                                                                                                                                      | OSHA_TRANS:US.<br>OSHA Table Z-1 Limits for<br>Air Contaminants<br>(29CFR 1910.1000):2006 |
| Aluminum Oxide (non fibrous) | 1344-28-1  | TWA :<br>Time weighted average            | 10 mg/m <sup>3</sup> :Total Dust<br>5 mg/m <sup>3</sup> : Respirable Fraction                                                                                                                                       | Z1A:US. OSHA<br>Table Z-1-A (29<br>CFR 1910.1000):1989                                    |
| Silicon Oxide (synthetic)    | 7631-86-9  | TWA :<br>Time weighted average            | 6 mg/m <sup>3</sup>                                                                                                                                                                                                 | Z1A:US. OSHA<br>Table Z-1-A (29<br>CFR 1910.1000 : 1989                                   |
| Silicon Oxide (synthetic)    | 7631-86-9  | TWA :<br>Time weighted average            | 0.8 mg/m <sup>3</sup><br>The exposure limit is calculated from the equation, 80/(%SiO <sub>2</sub> ), using a value of 100% SiO <sub>2</sub> . Lower values of % SiO <sub>2</sub> will give higher exposure limits. | Z3:US. OSHA<br>Table Z-3 (29<br>CFR 1910.1000 : 2000                                      |
| Quartz (SiO <sub>2</sub> )   | 14808-60-7 | TWA :<br>Time weighted average            | 0.025 mg/m <sup>3</sup><br>Respirable Fraction                                                                                                                                                                      | ACGIH:US. ACGIH<br>Threshold Limit Values:2008                                            |
| Quartz (SiO <sub>2</sub> )   | 14808-60-7 | REL:<br>Recommended exposure limit (REL): | 0.05 mg/m <sup>3</sup><br>Respirable Dust                                                                                                                                                                           | NIOSH/GUIDE:US.<br>NIOSH: Pocket<br>Guide to Chemical<br>Hazards:2005                     |
| Quartz (SiO <sub>2</sub> )   | 14808-60-7 | TWA :<br>time weighted average            | 0.1 mg/m <sup>3</sup><br>Respirable Dust                                                                                                                                                                            | Z1A:US. OSHA<br>Table Z-1-A (29<br>CFR 1910.1000):1989                                    |

# Safety Data Sheet

Date of SDS: 06/05/2015

| Material                   | (CAS #)    | Value                             | Control Parameters                                                                                                                                                                                                                                                               | Base:Updated                                         |
|----------------------------|------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Quartz (SiO <sub>2</sub> ) | 14808-60-7 | TWA :<br>Time weighted<br>average | 0.3 mg/m <sup>3</sup><br>Total Dust<br>The exposure limit is<br>calculated from the<br>equation, $30/(\%SiO_2)$ ,<br>using a value of 100%<br>SiO <sub>2</sub> . Lower values of<br>% SiO <sub>2</sub> will give higher<br>exposure limits.                                      | Z3:US. OSHA<br>Table Z-3 (29<br>CFR 1910.1000 : 2000 |
| Quartz (SiO <sub>2</sub> ) | 14808-60-7 | TWA :<br>Time weighted<br>average | 0.1 mg/m <sup>3</sup><br>Respirable Dust<br>The exposure limit is<br>calculated from the<br>equation, $10/(\%SiO_2)$ ,<br>using a value of 100%<br>SiO <sub>2</sub> . Lower values of<br>% SiO <sub>2</sub> will give higher<br>exposure limits.                                 | Z3:US. OSHA<br>Table Z-3 (29<br>CFR 1910.1000 : 2000 |
| Quartz (SiO <sub>2</sub> ) | 14808-60-7 | TWA :<br>Time weighted<br>average | 2.4 millions of particles<br>per cubic foot of air.<br>Respirable<br>The exposure limit is<br>calculated from the<br>equation, $250/(\%SiO_2+5)$ , using a<br>value of 100% SiO <sub>2</sub> .<br>Lower percentages of<br>SiO <sub>2</sub> will yield<br>Higher exposure limits. | Z3:US. OSHA<br>Table Z-3 (29<br>CFR 1910.1000 : 2000 |

## Section 9: Physical and Chemical Properties Data

**Boiling Point:** 760 mm Hg NA

**Specific Gravity:** (h<sub>2</sub>O=1) NA

**Vapor Density:** (air=1) NA

**Freezing Point:** NA

**Vapor Pressure:** 20°C NA

**Solubility In Water % By Weight:** NA

**Percent Volatiles Evaporation Rate By Volume:** NA (BUTY1 Acetate=1) NA

**Appearance & Odor:** Product may appear as block style or in hermetic shell

The core is a solid under normal condition. The core is odorless and is composed of grains that are colored white, buff, or black. Core material is abrasive.

## Section 10: Stability and Reactivity Data

In case of Core/Core drier/filter opened, it could result loose beads/core/powder that is:  
Stable under normal conditions.

**Conditions to Avoid:** The used hermetic driers can contain refrigerant under pressure. Remove sealing caps slowly on resealed driers.

**Incompatibility:** Sudden contact with strong acids such as hydrochloric acid and nitric acid.

### **Hazardous Decomposition:**

It is possible that oils can be retained in the drier. It is reasonable to expect that decomposition products will come from these retained materials of use. The driers themselves do not readily decompose unless subjected to extreme temperature or chemical conditions. If such decomposition did occur, the products would include the mix of oxides listed in Section II.

**Hazardous Polymerization:** Will not occur.

## Section 11: Toxicological Information

In case of Core/Core drier/filter opened, it could result loose beads/core/powder that must be classified as follow:

Acute oral toxicity : LD<sub>50</sub>: > 32,000 mg/kg

Species: rat

Acute inhalation toxicity : Note: no data available

Acute dermal toxicity : LD50: > 2,000 mg/kg

Species: rabbit

Skin irritation : Species: rabbit

Classification: Not classified as a skin irritant in animal testing.

Eye irritation : Species: rabbit

Classification: Not classified as an eye irritant in animal testing.

Further information : Note: The toxicological data has been taken from products of similar composition.

## Section 12: Ecological Information

### Ecotoxicity effects

Toxicity to fish : Note: no data available

Toxicity to daphnia and other aquatic invertebrates: Note: no data available

Toxicity to algae : Note: no data available

## Section 13: Disposal Considerations

**Steps to be Taken if Material is Released or Spilled:** Sweep the spill area. Collect and place the spilled material in a waste disposal container.

### Waste Disposal Method:

Discard any product (including any retained materials of use), disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations.

## Section 14: Transportation

**DOT** Not dangerous goods

**TDG** Not dangerous goods

**IATA** Not dangerous goods

**IMDG** Not dangerous goods

## Section 15: Regulatory Information

### U.S. Federal Regulations:

Under the TSCA rules for mixtures and naturally occurring substances the EPA considers this product to be a statutory mix, therefore, only its component oxides or metals shown in Section II of this MSDS are in the inventory. The human and environmental hazards are, however, not the summation of the hazards of the components because the components do not separate from the product. The hazards discussed in this MSDS are based on the product as a whole.

## Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III:

Requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on Reportable Quantities (RQ's) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).

There are no components present in this product at a level which could require reporting under the statute. This MSDS sheet is for informational purposes and should be kept on file.

## Section 16: Other Information

|                           | <b>HMIS III</b> | <b>NFPA</b> |
|---------------------------|-----------------|-------------|
| Health hazard :           | 1*              | 1           |
| Flammability :            | 0               | 0           |
| Physical Hazard :         | 1               |             |
| Instability :             |                 | 1           |
| * - Chronic health hazard |                 |             |

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.