## SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products

W.R.Grace & Co.-Conn.
62 Whittemore Ave.
Cambridge, MA 02140

Grace Canada, Inc.
294 Clements Rd. West
Ajax, Ontario, L1S 3C6

Telephone Number for Information and Emergency Response

In USA: (617) 876-1400

In Canada: (905) 683-8561

**MSDS Number: Z-01450 000001 Cancels MSDS # Z-01444 Date: 04/16/1998**

**Trade Names and Synonyms: (SEE SECTION 16 FOR ADDITIONAL PRODUCT IDENTIFICATION)** **MONOKOTE® ACCELERATOR**

Chemical Names and Family: Aluminum Sulfate Hydrate

Product Use: Plaster Set-time Accelerator

Formula: $Al_2(SO_4)_3 + 18\ H_2O$ approx.

CAS# (Chemical Abstract Service): 10043-01-3

## SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION (See Section 11 for Complete Chemical Names)

| | | EXPOSURE LIMITS (See Section 8 for Canadian Limits) | | |
|---|---|---|---|---|
| | Max. % | Exposure Limits | | |
| INGREDIENT: | By Wt. | OSHA | ACGIH | OTHER |
| ALUMINUM SULFATE<br>CAS# 10043-01-3 | 100.00 | PEL/TWA: 2 mg/m$^3$ as soluble Aluminum (Al) salts | TLV/TWA: 2 mg/m$^3$ as soluble Al salts | None Established |

## SECTION 3 - HAZARDS IDENTIFICATION

**Emergency Overview:**

Warning Statements:

WARNING! CAUSES IRRITATION

...Contains Aluminum sulfate hydrate CAS# 10043-01-3.
...Inhalation of dust or mist may irritate upper respiratory system and lungs causing coughing, sneezing, sore throat and breathing difficulties.
...Contact with eyes may result in severe irritation or corneal burns.
...Repeated or prolonged contact with skin may result in irritation, skin rashes, and possibly burns.
...May be irritating to linings of the gastrointestinal tract if swallowed and may cause nausea, abdominal pain and vomiting.
...Read and understand all Health and Safety information on the product Label and Material Safety Data Sheet before use.

**NPCA-HMIS Hazard Index:**

- Health: 2
- Flammability: 0
- Reactivity: 0
- Personal Protection: E (See Section 8)

**Potential Health Effects**

Routes of Exposure:

Inhalation:
Inhalation of dust and mist may cause irritation to the nose, throat and lungs resulting in coughing, sneezing, difficulty breathing, chest tightness and sore throat.

Skin and Eye:
Skin contact with dry product or concentrated solution may be irritating. Prolonged or repeated contact, especially with moist skin, may result in dermatoses (skin rashes) or possibly burns in worst cases.

Eye contact may cause severe chemical irritation or in worst cases, transient corneal burns. Direct eye contact with force of spray may cause physical injury.

Ingestion:
If dry product or concentrated solution is swallowed, irritation and inflammation to the linings of the gastrointestinal tract may occur. Product is slightly toxic if ingested. Ingestion may cause nausea, abdominal pain and vomiting.

Carcinogenicity Information:
Not Applicable

## SECTION 4 - FIRST AID MEASURES

EYE: In case of eye contact, immediately flush eyes with plenty of running water for at least 15 minutes holding eyelids apart. Get medical attention immediately.

SKIN: In case of skin contact, flush exposed area with plenty of water promptly. If irritation or other symptoms of exposure occur and persist, consult a physician. Remove and wash any contaminated clothing before reuse.

INGESTION: If swallowed, call a doctor or poison control center immediately. Decision to induce vomiting should be made by a physician. Never give anything by mouth to an unconscious person.

INHALATION: If inhaled as dust or mist, get fresh air. If symptoms of irritation occur and persist, consult a physician.

## SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not Applicable
Method Used: N.A. LEL N.A. UEL N.A.
N.F.P.A. Rating: N.A.

Extinguishing Media

Dry chemical, carbon dioxide, water spray, fog or foam.

Special Fire Fighting Procedures

NIOSH-approved self-contained breathing apparatuses (SCBA) with a full facepiece and protective suit should be worn by firefighters.

Unusual Fire and Explosion Hazards

None Known.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**U.S. RELEASES**

If spilled, prevent material from entering water systems. Observe the listed Precautionary Measures found in the Material Safety Data Sheet:

- Dry spills should be immediately swept up and placed in a suitable container to prevent further release of material.
- Liquid spills should be immediately contained (to minimize the extent of the spill) and absorbed with an inert, non-combustible material. Place material in a suitable container to prevent further release.

**CANADIAN RELEASES**

If spilled, prevent material from entering water systems. Observe the listed Precautionary Measures found in the Material Safety Data Sheet:

- o Dry spills should be immediately swept up and placed in a suitable container to prevent further release of material.
- o Liquid spills should be immediately contained (to minimize the extent of the spill) and absorbed with an inert, non-combustible material. Place material in a suitable container to prevent further release.

Dispose of waste in accordance with all applicable Provincial regulations.

## SECTION 7 - HANDLING AND STORAGE INFORMATION

Precautionary Measures:

...Avoid contact with eyes and skin by wearing safety glasses or splash goggles and protective gloves.
...Wash thoroughly after handling.
...Avoid breathing dust or mist. Use of a NIOSH-approved respirator for dusts and mists is recommended.
...Keep bags closed when not in use.
...FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION/CANADIAN EXPOSURE LIMITS

Ventilation:

| | |
|---|---|
| Local Exhaust: | Not Applicable |
| Mechanical: | Not Applicable |
| Special: | Not Applicable |
| Other: | Generally, ventilation on typical jobsites is provided by natural dilution and wind currents; however, in cases where product is mixed and/or spray-applied in enclosed areas, use of portable ventilation equipment may be necessary to control dust/mist levels. |

Respiratory Protection:

Use of a NIOSH-approved respirator for dusts and mists is recommended to maintain exposure below those limits outline in Section 2. NOTE: Whenever respirators are worn, regardless of whether or not they are disposable, a formal Respirator Program should exist to ensure the physical capability of the wearer, and that proper respirator training, selection and maintenance is performed.

Skin Protection:
Gloves should be worn to minimize skin contact.

Eye Protection:
Safety glasses with side shields or chemical splash goggles should be worn to protect against eye contact. Do not wear contact lenses.

Other Protective Clothing or Equipment:
Normal work clothes with long sleeves and trousers to minimize skin contact should be worn.

Work/Hygienic Practices:
Use handling (bag opening, pouring and disposal) procedures which minimize the creation and release of dust. Use good hygiene practices to minimize exposure.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION/CANADIAN EXPOSURE LIMITS (Cont'd)

**Provincial Exposure Limits**

| Ingredients | ACGIH | ALBERTA | B.C. | ONTARIO | QUEBEC |
|---|---|---|---|---|---|
| Aluminum Sulfate | 2mg/m$^3$ as soluble Al Salts | 2mg/m$^3$ -8hr OEL 4mg/m$^3$ -15min OEL | ----- | 2mg/m$^3$ -TWAEV | 2mg/m$^3$ -8hr |

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not Applicable

Specific Gravity($H_2O$=1) 1.61

Vapor Pressure (mm Hg.) Not Applicable

% Volatiles Not Applicable

Vapor Density(AIR = 1) Not Applicable

Evaporation Rate (Butyl Acetate = 1) Not Applicable

Solubility in Water: 50% @ 0°C

pH 1% solution-3.5
37% solution-3.0

Bulk Density (#/cu. ft): 15 #/cft.

Appearance and Odor: White, odorless granular powder.

Odor Threshold:
Not Applicable

## SECTION 10 - STABILITY AND REACTIVITY

Stable under normal conditions (yes or no): YES

Conditions or Materials to avoid (which may react or cause instability):
Alkalies and acids.

Hazardous Decomposition or Byproducts:
At temperatures above 760°C (1400°F) sulfur oxide gases may evolve. Sulfur trioxide is a fire hazard. The loss of these gases leaves a caustic residue.

Hazardous Polymerization:
Will not occur

Conditions to Avoid:
Not Applicable

## SECTION 11 - TOXICOLOGICAL INFORMATION

| INGREDIENT (Chemical Name, CAS#, & Common Name) | TOXICITY DATA $LD_{50}$, $LC_{50}$ etc. (See Section 2 for Exposure Limits) |
|---|---|
| **Aluminum Sulfate Hydrate** CAS# 10043-01-3 | Oral Rat $LD_{50}$ = 1,930 mg/kg<br>Oral Mouse $LD_{50}$ ~10,800 mg/kg |

## SECTION 12 - ECOLOGICAL INFORMATION

None Available At This Time

## SECTION 13 - DISPOSAL CONSIDERATIONS

**U.S. DISPOSAL**

Typical wastes of this product such as empty bags and excess material are not defined as hazardous according to the U.S. EPA (40 CFR 261.3).

Consult all regulations (federal, state, provincial, local etc.)or a qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

**CANADIAN DISPOSAL**

Consult all regulations (federal, state, provincial, local etc.)or a qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

## SECTION 14 - TRANSPORT INFORMATION

**Transportation Hazard Classification**

| United States DOT | Canadian Regulations |
|---|---|
| PROPER SHIPPING NAME: Not Applicable | TDG CLASS: Not Applicable |
| HAZARD CLASS: Not Applicable | |
| IDENTIFICATION #: Not Applicable | |
| LABEL(s) REQUIRED: Not Applicable | |

Surface Freight Classification: Aluminum Sulfate, Solid
UN#9078

**SECTION 15 - REGULATORY INFORMATION** (Not Meant To Be All Inclusive Selected Regulations Represented)

**SARA Title III Reporting Information**

**Tier I & II Hazard Categories:** IMMEDIATE (ACUTE) HEALTH

Contains Extremely Hazardous-SARA III Section 302 Ingredient: NO
Comments:

Contains Toxic Chemical Release-SARA III Section 313 Ingredient: NO
Comments:

**Other Government Reporting Requirements:**

**CHEMICAL INVENTORY CERTIFICATION:**

**For U.S. Products ONLY**
All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) inventory or exempt from listing on the TSCA inventory.

**For Canadian Products ONLY**
All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

**D.O.T. CLASSIFICATION**: (listed in Section 14) applies only to single containers of 5000 pounds or more of Aluminum Sulfate.

**WHMIS CLASS:** D-2B
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations **(CPR)**. This MSDS contains all the information required by the CPR.

2060f

Nonhazardous Ingredient Disclosure:
Not Applicable

## SECTION 16 - OTHER INFORMATION

The information contained in this Material Safety Data Sheet is applicable to the following products:

Zonolite® Monokote Accelerator
Monokote® Accelerator

"THE DATA INCLUDED HEREIN ARE PRESENTED IN ACCORDANCE WITH VARIOUS ENVIRONMENT, HEALTH AND SAFETY REGULATIONS. IT IS THE RESPONSIBILITY OF A RECIPIENT OF THIS DATA TO REMAIN CURRENTLY INFORMED ON CHEMICAL HAZARD INFORMATION, TO DESIGN AND UPDATE ITS OWN PROGRAM AND TO COMPLY WITH ALL NATIONAL, FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS APPLICABLE TO SAFETY, OCCUPATIONAL HEALTH, RIGHT-TO-KNOW AND ENVIRONMENTAL PROTECTION."

## SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products
W.R.Grace & Co.-Conn.
62 Whittemore Ave.
Cambridge, MA 02140

Grace Canada, Inc.
294 Clements Rd. West
Ajax, Ontario, L1S 3C6

Telephone Number for Information and Emergency Response
In USA: (617) 876-1400
In Canada: (905) 683-8561

**MSDS Number: Z-01484 000001 Cancels MSDS # Z-01356, Z-01357, Z-01380, Z-01381, Z-01428, Z-01429, Z-01431, Z-01455, Z-01457, Z-01481, Z-01482 Date: 03/28/2000**

**Trade Names and Synonyms: (SEE SECTION 16 FOR ADDITIONAL PRODUCT IDENTIFICATION)** **MONOKOTE® MK6, MK6/HY and MK-6s (All Colors)**

Chemical Names and Family: Lightweight Gypsum-Aggregate Plaster

Product Use: Fireproofing Product

Formula: Blend Of Gypsum, Clay, Limestone, Styrene Polymer & Cellulose

CAS# (Chemical Abstract Service): MIXTURE-NA

## SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION (See Section 11 for Complete Chemical Names)

| INGREDIENT: | Max.% By Wt. | EXPOSURE LIMITS Exposure Limits OSHA | ACGIH | OTHER |
|---|---|---|---|---|
| PLASTER OF PARIS (GYPSUM)<br>CAS# 26499-65-0 | 90.00 | 15 mg/m3 -TWA as Total Dust<br>5 mg/m3 - TWA as Respirable Dust | 10 mg/m3 -TWA as Total Dust | None Established |
| CARBON BLACK<br>CAS# 1333-86-4 | 2.00 | 3.5 mg/m3 – TWA | 3.5 mg/m3 – TWA | NIOSH:<br>3.5 mg/m3 - TWA |
| CLAY<br>CAS# 12174-11-7/<br>8031-18-3 | 10.00 | None Established | None Established | None Established |
| NUISANCE PARTICULATES<br>CAS# N/A | N/A | 15 mg/m3 - TWA as Total Dust<br>5 mg/m3 – TWA as Respirable Dust | 10 mg/m3 – TWA as Total Dust<br>3 mg/m3 – TWA as Respirable Dust | None Established |
| QUARTZ (CRYSTALLINE SILICA)<br>CAS# 14808-60-7 | 5.00 | 30 mg/m3÷(% SiO2+2)-TWA as Total Dust<br>10 mg/m3÷(% SiO2+2)-TWA as Respirable Dust | 0.1 mg/m3 – TWA as Respirable Dust | NIOSH:<br>0.05 mg/m3 - TWA as Respirable Dust |
| CALCIUM CARBONATE<br>CAS# 1317-65-3 | 5.00 | 15 mg/m3 - TWA as Total Dust<br>5 mg/m3 - TWA as Respirable Dust | 10 mg/m3 - TWA as Total Dust | None Established |

## SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION (See Section 11 for Complete Chemical Names) (Cont'd)

**EXPOSURE GUIDELINES - CANADA**

Employers should check with provincial regulatory agencies for exposure guidelines, which may vary locally.

## SECTION 3 - HAZARDS IDENTIFICATION

**Emergency Overview:**

Warning Statements:

CAUTION! MAY CAUSE EYE AND RESPIRATORY IRRITATION.

... Contains Plaster of Paris CAS# 26499-65-0 with less than 5% Quartz (Crystalline silica) CAS# 14808-60-7, Calcium carbonate CAS# 1317-65-3, Clay CAS# 12174-11-7/8031-18-3, Cellulose CAS# 65996-61-4 and Styrene polymer CAS# 9003-53-6. Grey, charcoal and black products also contain Carbon black CAS# 1333-86-4.
... May be irritating if inhaled resulting in coughing and sneezing.
... Prolonged and repeated exposure to respirable Crystalline silica and Carbon black can decrease lung function and create risk of lung disease (i.e., silicosis and/or lung cancer).
... May cause minor mechanical irritation to eyes. Direct contact with spray can damage eyes.
... Wet material falling on floors, stairs, or other surfaces will cause these surfaces to become slippery.
... Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).
... Read and understand all Health and Safety information on the product Label and Material Safety Data Sheet before use.

**NPCA-HMIS Hazard Index:**

- Health: 1 *
- Flammability: 0
- Reactivity: 0
- Personal Protection: B,E (See Section 8)

**Potential Health Effects**

Routes of Exposure:

Inhalation:

Exposure to excessive airborne dust may cause coughing, sneezing and dyspnea (shortness of breath, labored breathing).

Exposure may also aggravate chronic respiratory conditions such as asthma or bronchitis. Long-term inhalation of dust may increase the risk of contracting pneumoconiosis ("dusty lungs") and may also decrease lung function. Prolonged and repeated exposure to respirable silica and Carbon black can result in lung disease (i.e., silicosis and/or lung cancer).

## SECTION 3 - HAZARDS IDENTIFICATION (Cont'd)

Skin and Eye:
EYE contact with dust may cause minor mechanical irritation. Direct eye contact with MONOKOTE® may cause physical injury. Prolonged or repeated SKIN contact may dry skin.

Ingestion:
Not expected to be harmful.

Carcinogenicity Information:
Crystalline silica has been classified as a probable human carcinogen (Group 1) by the International Agency for Research on Cancer (IARC). The National Toxicology Program (NTP) has concluded that respirable Crystalline silica is "reasonably anticipated to be a carcinogen" (N2) based on sufficient animal and limited human data. The substance is also recognized by OSHA as a carcinogen.

Carbon black is listed by IARC as a known animal carcinogen and possible human carcinogen, (Group 2B) based on rat inhalation studies.

(See Section 8 – Supplemental Information for additional detail.)

## SECTION 4 - FIRST AID MEASURES

EYE: In case of contact with eyes, immediately flush eyes with plenty of water. Do not rub eyes. If blinking or tearing persist, see a physician.

SKIN: In case of contact with skin, wash affected area with soap and water.

INHALATION: If inhaled, get fresh air. If symptoms of irritation occur and persist, consult a physician.

INGESTION: If swallowed, call a doctor or poison control center immediately. The decision to induce vomiting should be made by a physician. Never give anything by mouth to an unconscious person.

## SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not Applicable
Method Used: Not Applicable
N.F.P.A. Rating: Not Applicable

Flammable Limits:
LEL N/A UEL N/A

Extinguishing Media
Not Applicable

Special Fire Fighting Procedures
None Known

Unusual Fire and Explosion Hazards
None Known

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

If spilled, prevent material from entering water systems. Observing the listed Precautionary Measures found in Section 7 of this document:

- Dry spills should be immediately swept up and placed in a suitable container to prevent further release of material.
- Slurry spills should be immediately contained (to minimize the extent of the spill) and absorbed with an inert, non-combustible material. Place material in a suitable container to prevent further release.

## SECTION 7 - HANDLING AND STORAGE INFORMATION

Precautionary Measures:

... Avoid creating and inhaling dust.
... Equip mixers with dust covers.
... Provide ventilation and/or respiratory protection.
... Wear eye protection to avoid contact with dust or spray.
... Post "Slippery When Wet" signs where appropriate.
... Use antislip surfaces on working platforms.
... FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:

| | |
|---|---|
| Local Exhaust: | Exhaust fans may be necessary when mixing in enclosed areas. |
| Mechanical: | Exhaust fans may be necessary when mixing in enclosed areas. |
| Special: | Not Applicable |
| Other: | Not Applicable |

Respiratory Protection:

Wear NIOSH-approved respiratory protection (generally a N-95 dust mask is appropriate) to prevent employee exposures from exceeding the limits specified in Section 2.

Skin Protection:
Work gloves or hand creams are recommended to prevent drying of skin.

Eye Protection:
Proper eye protection is required. At a minimum safety glasses with side shields should be worn where exposure to excessive dust or spray is likely.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont'd)

Other Protective Clothing or Equipment:
Normal work clothes.

Work/Hygienic Practices:

Use bag opening and disposal procedures which minimize dust release. Equip mixers with dust covers to minimize dust released during mixing cycle.

Prior to welding or cutting, MONOKOTE® must be removed from steel surfaces in those immediate areas where exposure to excessive heat, applied either directly or through conduction, from cutting or welding operations is possible.

Remove fireproofing materials in a manner so as to minimize the creation of dust. All trades must exercise work practices which avoid creating dust. This may be accomplished by:

- Wetting fireproofing materials using water, prior to its removal.
- Removing small areas of fireproofing at one time.
- Maintaining a clean worksite.

SUPPLEMENTAL INFORMATION

**Quartz (Crystalline silica)** is a naturally- occurring mineral that is commonly contained in materials that are mined from the earth's surface such as sand, limestone, clay and gypsum (calcium sulfate).

Total quartz is a value usually representing the combined fractions of non-respirable sized particles and of respirable sized particles (less than ten microns in aerodynamic diameter). It is only the respirable fraction of total quartz that is recognized as hazardous by professionals in the field of Occupational Health and by most regulatory agencies. Grace measures employee exposure to respirable silica at our manufacturing plants. All results have been well below the applicable exposure limits defined in Section 2 of this MSDS.

**Carbon black** is one of the most common coloring agents in use today. It is used in newspaper printing inks, copy machine toner and in paints. In March of 1996 the International Agency for Research on Cancer (IARC) classified Carbon black as a known animal carcinogen and a possible human carcinogen. The recommendation was based on the results of rat inhalation studies of Carbon black, despite the lack of any parallel evidence in humans or other animal species. Carbon black used in Monokote® contains less than 0.1% of adsorbed PAHs (polynuculear aromatic hydrocarbons) and it is not listed by the National Toxicology Program (NTP), the Occupational Safety and Health Administration (OSHA) or the National Institute of Occupational Safety and Health (NIOSH) as a carcinogen.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont'd)

**Clay** contained in Monokote® may contain very small particles which might be described as microfibrous (0.02-0.1 µm diameter and 0.1-2.5 µm in length with a mean particle length of 0.4 µm). These particles are not regulated as fibers. Studies to date show that these particles are not fibrogenic nor carcinogenic and unlikely to cause pulmonary dysfunction.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| Boiling Point: | Not Applicable | Specific Gravity($H_2O$=1) | Not Applicable |
| Vapor Pressure (mm Hg.) | Not Applicable | % Volatiles | Not Applicable |
| Vapor Density(AIR = 1) | Not Applicable | Evaporation Rate (Butyl Acetate = 1) | Not Applicable |
| Solubility in Water: | Slight | pH | Approx. Neutral Varies with water |

Bulk Density (#/cu. ft): 12-16 PCF

Appearance and Odor: Coarse, free flowing white to black powder, no odor. (May also be available in special order colors.)

Odor Threshold:
Not Determined

## SECTION 10 - STABILITY AND REACTIVITY

Stable under normal conditions (yes or no): YES

Conditions or Materials to avoid (which may react or cause instability):

Prior to welding or cutting, MONOKOTE® must be removed from steel surfaces in those immediate areas where exposure to excessive heat applied either directly or through conduction from cutting or welding operations is possible.

Hazardous Decomposition or Byproducts:

As a result of incomplete combustion, Styrene monomers and polymers may be given off. Temperatures in excess of 4000°F may generate Sulfur dioxide ($SO_2$). Upon complete combustion, Carbon monoxide and Carbon dioxide are released.

Hazardous Polymerization:

Will not occur.

Conditions to Avoid:

Not Applicable

## SECTION 11 - TOXICOLOGICAL INFORMATION

| INGREDIENT (Chemical Name, CAS#, & Common Name) | TOXICITY DATA: $LD_{50}$ & $LC_{50}$ (See Section 2 for Exposure Limits) |
|---|---|
| **Plaster of Paris (Gypsum)** CAS# 26499-65-0 | No Toxicity Data Available |
| **Quartz (Crystalline Silica)** CAS# 14808-60-7 | No Toxicity Data Available |
| **Calcium Carbonate (Limestone)** CAS# 1317-65-3 | No Toxicity Data Available |
| **Carbon Black** CAS# 1333-86-4 | $LD_{50}$ (Oral/Rat) >15,400 mg/kg |
| **Clay (Attapulgite, Fuller's Earth)** CAS# 12174-11-7/8031-18-3 | No Toxicity Data Available |

**Reproductive Toxicity** - Not Applicable
**Teratogenicity** - Not Applicable
**Mutagenicity** - Not Applicable
**Toxicologically Synergistic Products** - Not Applicable
**Sensitization** - Not Applicable
**Irritancy** - Not Applicable

Specific toxicity tests have not been conducted on this product. Our hazard evaluation is based on information from similar products, the raw material manufacturer's MSDS, technical literature, and/or professional experience.

## SECTION 12 - ECOLOGICAL INFORMATION

None Available At This Time

## SECTION 13 - DISPOSAL CONSIDERATIONS

Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

Waste of this product such as empty bags and excess material are typically not defined as hazardous.

## SECTION 14 - TRANSPORT INFORMATION

**Transportation Hazard Classification**

PROPER SHIPPING NAME: Not Applicable
HAZARD CLASS: Nonhazardous
IDENTIFICATION #: Not Applicable
LABEL(s) REQUIRED: Not Applicable

Surface Freight Classification: Wall Plaster

## SECTION 15 - REGULATORY INFORMATION

(Not Meant To Be All Inclusive Selected Regulations Represented)

**SARA TITLE III REPORTING INFORMATION**

**Tier I & II HAZARD CATEGORIES:** DELAYED (CHRONIC) HEALTH
IMMEDIATE (ACUTE) HEALTH

Contains Extremely Hazardous-SARA III Section 302 Ingredient: NO
Comments:

Contains Toxic Chemical Release-SARA III Section 313 Ingredient: NO
Comments:

**Other Government Reporting Requirements:**

**CHEMICAL INVENTORY CERTIFICATION:**

**For U.S. Products ONLY**
All ingredients contained in this product are included on the US EPA Toxic Substances Control Act **(TSCA)** Inventory or exempt from listing on the TSCA Inventory.

**For Canadian Products ONLY**
All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

**CALIFORNIA PROPOSITION 65 INFORMATION:** WARNING! This product contains substances known to the state of California to cause cancer, birth defects or other reproductive harm.

**NATIONAL VOLATILE ORGANIC COMPOUND EMISSON STANDARDS FOR ARCHITECTURAL COATINGS:**
Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).

**WHMIS CLASS:** D-2A
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation **(CPR)**. This MSDS contains all the information required by the CFR.

Nonhazardous Ingredient Disclosure:
Cellulose Filler CAS# 65996-61-4 and Styrene polymer CAS# 9003-53-6.

## SECTION 16 - OTHER INFORMATION

The information contained in this Material Safety Data Sheet is applicable to the following products:

Monokote® MK-6 (All Colors)
Monokote® MK-6/HY (All Colors)
Monokote® MK-6s (All Colors)

"THE DATA INCLUDED HEREIN ARE PRESENTED IN ACCORDANCE WITH VARIOUS ENVIRONMENT, HEALTH AND SAFETY REGULATIONS. IT IS THE RESPONSIBILITY OF A RECIPIENT OF THIS DATA TO REMAIN CURRENTLY INFORMED ON CHEMICAL HAZARD INFORMATION, TO DESIGN AND UPDATE ITS OWN PROGRAM AND TO COMPLY WITH ALL NATIONAL, FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS APPLICABLE TO SAFETY, OCCUPATIONAL HEALTH, RIGHT-TO-KNOW AND ENVIRONMENTAL PROTECTION."

# MATERIAL SAFETY DATA SHEET

(Essentially similar to OSHA form 174, Sept. 1985 - For Compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200)

## Section I - Product Identity: Firebond ® Concentrate(7460) /Adhesive(7450)

Manufacturer's Name:
Fiberlock Technologies, Inc.
630 Putnam Avenue
Cambridge, MA
02139-0802
Mail Address:
P.O. Box 390432
Cambridge, MA 02139-0802

Date of Preparation: June 10, 1999
Information Telephone Number:
(617) 876-8020
Emergency Telephone Numbers:
Weekdays: (617) 876-8020
(After hours, weekends & holidays)
(508) 887-5926, or "CHEM-TEL" Emergency
Contact Number: (800) 255-3924

## Section II - Hazardous Ingredients/Identity Information

| HAZARDOUS COMPONENT | COMMON NAME(S) % | CAS. NO. | OSHA PEL | OR TLV | ACGIH |
|---|---|---|---|---|---|

None per the limits for reporting set forth in 29CFR 1910.1200

## Section III - Physical/Chemical Characteristics (See reference note(s) No. 1, 2 on Reverse)

| | | | |
|---|---|---|---|
| Boiling Points of Major Constituent: (Water) | 212°F | Specific Gravity (H2 O=1) Wgt./gal. | 8.5 |
| Vapor Pressure (mm Hg) @ 100°C | 760 | Melting Point Water (Ice) | 32°F |
| Vapor Density (AIR=1)<br>Heavier<br>Lighter | <br>X<br> | Evaporation Rate (Butyl Acetate=1) | Slower |
| Solubility in Water | Total | Appearance: liquid<br>Odor: slight odor | Maximum VOC's 250 g/l |

## Section IV - Fire and Explosion Hazard Data (Non-Flammable)

| | | | |
|---|---|---|---|
| Flash Point:<br>Non-Combustible | Flammable Limits:<br>LEL: N/A UEL:N/A | DOT Hazard Class:<br>Non Regulated | Marking:<br>"Keep From Freezing" |

## Section V - Reactivity Data

Hazardous Polymerization: Will not occur.
Stability: Stable
Incompatibility: Avoid Contact with: Strong oxidizing agents (e.g., nitric acid, permanganates), etc.
Hazardous Decomposition Products: Some carbon monoxide

## Section VI - Health Hazard Data, Toxicity Data

Route(s) of Entry: N/A
Carcinogenicity?: No
Health Hazards (Acute and Chronic):

EFFECTS OF OVEREXPOSURE: Inhalation, vapors or spray mists may be slightly irritating to eye, nose, throat, and mucous membranes of respiratory tract producing symptoms of headache, nausea in poorly ventilated areas. Skin Contact: Prolonged or repeated contact with coating may cause slight skin irritation.
Eye Contact: Direct contact; inconsequential eye irritation. Ingestion: May cause nausea and intended expectoration.

EMERGENCY AND FIRST AID PROCEDURES: Inhalation: Remove to fresh air. Eye and Skin Contact: Immediately flush eyes with plenty of water for at least 15 minutes and consult physician; wash skin thoroughly with soap and water. If drenched, remove and wash clothing before reuse. Ingestion: If swallowed, call a physician immediately. If victim is conscious, give 2 glasses of water. Never give anything to an unconscious person. Treat symptomatically.

TOXICITY INFORMATION: The effects of overexposure shown in Section VI are based on acute toxicity profiles for a number of special emulsions that are compositionally similar to this product. Typical values are: Rat, oral LD 50:>5.0 g/kg; Rabbit, dermal LD 50:>5.0 g/kg; Rabbit, skin irritation: practically non irritating --72 hour Mean Irritation Score = 0 to 2: Rabbit, eye irritation: Inconsequentially irritating.

**SUPPLEMENTAL INFORMATION**

To comply with New Jersey DOH Right-To-Know labeling law (N.J.A.C. 8:59 - 5.1 & 5.2)

| **CAS. No.:** | **CHEMICAL INGREDIENTS:** |
|---|---|
| 7732-18-5 | Water |
| Not Available* | Proprietary defoamer |
| Not Available* | Acrylic resin solids |

*contents partially unknown

| HMIS HAZARD RATING | | | |
|---|---|---|---|
| Health 1 | Flammability 0 | Reactivity 0 | Personal Protection A |
| HAZARD INDEX | | | |
| 0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Severe | | | |
| PERSONAL PROTECTION CODE | | | |
| A=Safety Glasses | | | |

# MATERIAL SAFETY DATA SHEET

## Section VII – Precautions for Safe Handling and Use

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Keep unnecessary people away. Floor may be slippery; use care to avoid falling. Dike and contain material with inert material (e.g. sand, earth). Transfer liquid to containers for recovery or disposal and solid diking material to separate containers for disposal. Keep spills and run-offs out of municipal sewers and open bodies of water.
**WASTE DISPOSAL METHOD:** The coating and any contaminated diking material should be thoroughly air dried and collected into drums. The drums should then be sealed and properly labeled with waste designation and landfill or incinerated according to current local, state and federal regulations.
**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** Maximum storage temparture 100°F. Keep closure tight and container upright to prevent leakage. Precautionary Labeling: "Keep from Freezing".
**OTHER PRECAUTIONS:** Do not get in eyes. Avoid skin contact. Prevent prolonged or repeated breathing of vapors or spray mists. Do not handle until the manufacturer's safety precautions and label instructions have been read and understood. Avoid breathing sanding dust.

## Section VIII – Control Measures

**RESPIRATORY PROTECTION:** None required if good ventilation is maintained. Wear respirator (MSHA/ NIOSH-approved or equivalent) suitable for concentrations and types of air contaminants encountered. Use approved chemical/mechanical filters designed to remove particulates in open and restricted ventilation areas. Use MSHA/NIOSH-approved airline type respirators or hood in confined areas.
**VENTILATION:** Sufficient ventilation, in pattern and volume, should be provided to keep the air contaminant concentration below applicable exposure limits. All application areas should be ventilated in accordance with OSHA regulation 29CFR Part 1910.94.
**PROTECTIVE GLOVES:** Impervious gloves should be worn if prolonged skin contact is likely. Use neoprene or rubber gloves to prevent prolonged skin contact.
**EYE PROTECTION:** Use safety eyewear including side shields, face shields, or chemical splash goggles (ANSIZ-87.1 or approved equivalent).
**OTHER PROTECTIVE EQUIPMENT:** Use disposable or impervious clothing if work clothing contamination is likely. Use protective cream if prolonged skin contact is likely.
**HYGIENIC PRACTICES:** Wash hands before eating, smoking, or using the washroom. Food or beverages should not be consumed anywhere this product is being applied.

## References:

1. Sax, N.I., "Dangerous Properties of Industrial Materials", 8th ed., Van Nostrand Reinhold Company, Inc., NY, 1992.
2. American Conference of Governmental Industrial Hygienists, "TLV's and Biological Exposure Indices" for the current year (published annually).
3. U.S. Code of Federal Regulations (CFR) U.S. Dept. of Labor, No. 29, Parts 1900 to 1910.1200. OSHA Communications Standard 29 CFR 1910.1200.
4. Sax, N.I., R.J. "Hazardous Chemicals Desk Reference", Van Nostand Reinhold Co., Inc., NY, 1987.
5. Fire Protection Guide to Hazardous Materials, 10 ed., National Fire Protection Association, Quincy, MA. 1991.
6. Title III List of Lists, U.S. Environmental Protection Agency publication EPA 560/4-90-011, January 1990.

## SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products
W.R.Grace & Co.-Conn.
62 Whittemore Ave.
Cambridge, MA 02140

Grace Canada, Inc.
294 Clements Rd. West
Ajax, Ontario, L1S 3C6

Telephone Number for Information and Emergency Response
In USA: (617) 876-1400
In Canada: (905) 683-8561

**MSDS Number: Z-01490 000001 Cancels MSDS # Z-01355, Z-01358, Z-01382, Z-01386 Date: 03/28/2000**

**Trade Names and Synonyms: (SEE SECTION 16 FOR ADDITIONAL PRODUCT IDENTIFICATION)** **RETRO-GUARD®**

Chemical Names and Family: Lightweight Gypsum-Aggregate Plaster

Product Use: Fireproofing Product
Formula: Blend Of Gypsum, Limestone, Styrene Polymer & Cellulose

CAS# (Chemical Abstract Service): MIXTURE-NA

## SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION (See Section 11 for Complete Chemical Names)

| INGREDIENT: | Max.% By Wt. | EXPOSURE LIMITS Exposure Limits OSHA | ACGIH | OTHER |
|---|---|---|---|---|
| PLASTER OF PARIS (GYPSUM)<br>CAS# 26499-65-0 | 90.00 | 15 mg/m3 -TWA as Total Dust<br>5 mg/m3 - TWA as Respirable Dust | 10 mg/m3 -TWA as Total Dust | None Established |
| NUISANCE PARTICULATES<br>CAS# N/A | N/A | 15 mg/m3 - TWA as Total Dust<br>5 mg/m3 – TWA as Respirable Dust | 10 mg/m3 – TWA as Total Dust<br>3 mg/m3 – TWA as Respirable Dust | None Established |
| QUARTZ (CRYSTALLINE SILICA)<br>CAS# 14808-60-7 | 5.00 | 30 mg/m3÷(% SiO2+2)-TWA as Total Dust<br>10 mg/m3÷(% SiO2+2)-TWA as Respirable Dust | 0.1 mg/m3 – TWA as Respirable Dust | NIOSH:<br>0.05 mg/m3 - TWA as Respirable Dust |
| CALCIUM CARBONATE<br>CAS# 1317-65-3 | 5.00 | 15 mg/m3 - TWA as Total Dust<br>5 mg/m3 - TWA as Respirable Dust | 10 mg/m3 - TWA as Total Dust | None Established |

### EXPOSURE GUIDELINES - CANADA

Employers should check with provincial regulatory agencies for exposure guidelines, which may vary locally.

## SECTION 3 - HAZARDS IDENTIFICATION

**Emergency Overview:**

Warning Statements:

CAUTION! MAY CAUSE EYE AND RESPIRATORY IRRITATION.

... Contains Plaster of Paris CAS# 26499-65-0 with less than 5% Quartz (Crystalline silica) CAS# 14808-60-7, Calcium carbonate CAS# 1317-65-3, Cellulose CAS# 65996-61-4 and Styrene polymer CAS# 9003-53-6.
... May be irritating if inhaled resulting in coughing and sneezing.
... Prolonged and repeated exposure to respirable Crystalline silica can decrease lung function and create risk of lung disease (i.e., silicosis and/or lung cancer).
... May cause minor mechanical irritation to eyes. Direct contact with spray can damage eyes.
... Wet material falling on floors, stairs, or other surfaces will cause these surfaces to become slippery.
... Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).
... Read and understand all Health and Safety information on the product Label and Material Safety Data Sheet before use.

**NPCA-HMIS Hazard Index:**

- Health: 1 *
- Flammability: 0
- Reactivity: 0
- Personal Protection: B,E (See Section 8)

**Potential Health Effects**

Routes of Exposure:

Inhalation:

Exposure to excessive airborne dust may cause coughing, sneezing and dyspnea (shortness of breath, labored breathing).

Exposure may also aggravate chronic respiratory conditions such as asthma or bronchitis. Long-term inhalation of dust may increase the risk of contracting pneumoconiosis ("dusty lungs") and may also decrease lung function. Prolonged and repeated exposure to respirable silic can result in lung disease (i.e., silicosis and/or lung cancer).

Skin and Eye:

EYE contact with dust may cause minor mechanical irritation. Direct eye contact with RETRO-GUARD® may cause physical injury. Prolonged or repeated SKIN contact may dry skin.

## SECTION 3 - HAZARDS IDENTIFICATION (Cont'd)

Ingestion:
Not expected to be harmful.

Carcinogenicity Information:
Crystalline silica has been classified as a probable human carcinogen (Group 1) by the International Agency for Research on Cancer (IARC). The National Toxicology Program (NTP) has concluded that respirable Crystalline silica is "reasonably anticipated to be a carcinogen" (N2) based on sufficient animal and limited human data. The substance is also recognized by OSHA as a carcinogen.

(See Section 8 – Supplemental Information for additional detail.)

## SECTION 4 - FIRST AID MEASURES

EYE: In case of contact with eyes, immediately flush eyes with plenty of water. Do not rub eyes. If blinking or tearing persist, see a physician.

SKIN: In case of contact with skin, wash affected area with soap and water.

INHALATION: If inhaled, get fresh air. If symptoms of irritation occur and persist, consult a physician.

INGESTION: If swallowed, call a doctor or poison control center immediately. The decision to induce vomiting should be made by a physician. Never give anything by mouth to an unconscious person.

## SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not Applicable
Method Used: Not Applicable
N.F.P.A. Rating: Not Applicable

Flammable Limits:
LEL N/A UEL N/A

Extinguishing Media
Not Applicable

Special Fire Fighting Procedures
None Known

Unusual Fire and Explosion Hazards
None Known

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

If spilled, prevent material from entering water systems. Observing the listed Precautionary Measures found in Section 7 of this document:

- Dry spills should be immediately swept up and placed in a suitable container to prevent further release of material.
- Slurry spills should be immediately contained (to minimize the extent of the spill) and absorbed with an inert, non-combustible material. Place material in a suitable container to prevent further release.

## SECTION 7 - HANDLING AND STORAGE INFORMATION

Precautionary Measures:

... Avoid creating and inhaling dust.
... Equip mixers with dust covers.
... Provide ventilation and/or respiratory protection.
... Wear eye protection to avoid contact with dust or spray.
... Post "Slippery When Wet" signs where appropriate.
... Use antislip surfaces on working platforms.
... FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:

| | |
|---|---|
| Local Exhaust: | Exhaust fans may be necessary when mixing in enclosed areas. |
| Mechanical: | Exhaust fans may be necessary when mixing in enclosed areas. |
| Special: | Not Applicable |
| Other: | Not Applicable |

Respiratory Protection:

Wear NIOSH-approved respiratory protection (generally a N-95 dust mask is appropriate) to prevent employee exposures from exceeding the limits specified in Section 2.

Skin Protection:
Work gloves or hand creams are recommended to prevent drying of skin.

Eye Protection:
Proper eye protection is required. At a minimum safety glasses with side shields should be worn where exposure to excessive dust or spray is likely.

**SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont'd)**

Other Protective Clothing or Equipment:
Normal work clothes.

Work/Hygienic Practices:

Use bag opening and disposal procedures which minimize dust release. Equip mixers with dust covers to minimize dust released during mixing cycle.

Prior to welding or cutting, RETRO-GUARD® must be removed from steel surfaces in those immediate areas where exposure to excessive heat, applied either directly or through conduction, from cutting or welding operations is possible.

Remove fireproofing materials in a manner so as to minimize the creation of dust. All trades must exercise work practices which avoid creating dust. This may be accomplished by:

- Wetting fireproofing materials using water, prior to its removal.
- Removing small areas of fireproofing at one time.
- Maintaining a clean worksite.

SUPPLEMENTAL INFORMATION

**Quartz (Crystalline silica)** is a naturally- occurring mineral that is commonly contained in materials that are mined from the earth's surface such as sand, limestone, clay and gypsum (calcium sulfate).

Total quartz is a value usually representing the combined fractions of non-respirable sized particles and of respirable sized particles (less than ten microns in aerodynamic diameter). It is only the respirable fraction of total quartz that is recognized as hazardous by professionals in the field of Occupational Health and by most regulatory agencies. Grace measures employee exposure to respirable silica at our manufacturing plants. All results have been well below the applicable exposure limits defined in Section 2 of this MSDS.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not Applicable

Specific Gravity($H_2O$=1) Not Applicable

Vapor Pressure (mm Hg.) Not Applicable

% Volatiles Not Applicable

Vapor Density(AIR = 1) Not Applicable

Evaporation Rate (Butyl Acetate = 1) Not Applicable

Solubility in Water: Slight

pH Approx. Neutral Varies with water

Bulk Density (#/cu. ft): 12-16 PCF

Appearance and Odor: Coarse, free flowing light blue powder, no odor. (May also be available in special order colors.)

Odor Threshold:
Not Determined

## SECTION 10 - STABILITY AND REACTIVITY

Stable under normal conditions (yes or no): YES

Conditions or Materials to avoid (which may react or cause instability):

Prior to welding or cutting, RETRO-GUARD® must be removed from steel surfaces in those immediate areas where exposure to excessive heat applied either directly or through conduction from cutting or welding operations is possible.

Hazardous Decomposition or Byproducts:

As a result of incomplete combustion, Styrene monomers and polymers may be given off. Temperatures in excess of 4000°F may generate Sulfur dioxide ($SO_2$). Upon complete combustion, Carbon monoxide and Carbon dioxide are released.

Hazardous Polymerization:

Will not occur.

Conditions to Avoid:

Not Applicable

## SECTION 11 - TOXICOLOGICAL INFORMATION

| INGREDIENT (Chemical Name, CAS#, & Common Name) | TOXICITY DATA: $LD_{50}$ & $LC_{50}$ (See Section 2 for Exposure Limits) |
|---|---|
| **Plaster of Paris (Gypsum)** CAS# 26499-65-0 | No Toxicity Data Available |
| **Quartz (Crystalline Silica)** CAS# 14808-60-7 | No Toxicity Data Available |
| **Calcium Carbonate (Limestone)** CAS# 1317-65-3 | No Toxicity Data Available |

**Reproductive Toxicity** - Not Applicable
**Teratogenicity** - Not Applicable
**Mutagenicity** - Not Applicable
**Toxicologically Synergistic Products** - Not Applicable
**Sensitization** - Not Applicable
**Irritancy** - Not Applicable

Specific toxicity tests have not been conducted on this product. Our hazard evaluation is based on information from similar products, the raw material manufacturer's MSDS, technical literature, and/or professional experience.

## SECTION 12 - ECOLOGICAL INFORMATION

None Available At This Time

## SECTION 13 - DISPOSAL CONSIDERATIONS

Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

Waste of this product such as empty bags and excess material are typically not defined as hazardous.

## SECTION 14 - TRANSPORT INFORMATION

**Transportation Hazard Classification**

PROPER SHIPPING NAME: Not Applicable
HAZARD CLASS: Nonhazardous
IDENTIFICATION #: Not Applicable
LABEL(s) REQUIRED: Not Applicable

Surface Freight Classification: Wall Plaster

**SECTION 15 - REGULATORY INFORMATION** (Not Meant To Be All Inclusive Selected Regulations Represented)

**SARA TITLE III REPORTING INFORMATION**

**Tier I & II HAZARD CATEGORIES:** DELAYED (CHRONIC) HEALTH
IMMEDIATE (ACUTE) HEALTH

Contains Extremely Hazardous-SARA III Section 302 Ingredient: NO
Comments:

Contains Toxic Chemical Release-SARA III Section 313 Ingredient: NO
Comments:

**Other Government Reporting Requirements:**

**CHEMICAL INVENTORY CERTIFICATION:**

**For U.S. Products ONLY**
All ingredients contained in this product are included on the US EPA Toxic Substances Control Act **(TSCA)** Inventory or exempt from listing on the TSCA Inventory.

**For Canadian Products ONLY**
All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

**CALIFORNIA PROPOSITION 65 INFORMATION:** WARNING! This product contains substances known to the state of California to cause cancer, birth defects or other reproductive harm.

**NATIONAL VOLATILE ORGANIC COMPOUND EMISSON STANDARDS FOR ARCHITECTURAL COATINGS:**
Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).

**WHMIS CLASS**: D-2A
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation **(CPR)**. This MSDS contains all the information required by the CFR.

Nonhazardous Ingredient Disclosure:
Cellulose Filler CAS# 65996-61-4 and Styrene polymer CAS# 9003-53-6.

## SECTION 16 - OTHER INFORMATION

The information contained in this Material Safety Data Sheet is applicable to the following products:

Retro-Guard®

"THE DATA INCLUDED HEREIN ARE PRESENTED IN ACCORDANCE WITH VARIOUS ENVIRONMENT, HEALTH AND SAFETY REGULATIONS. IT IS THE RESPONSIBILITY OF A RECIPIENT OF THIS DATA TO REMAIN CURRENTLY INFORMED ON CHEMICAL HAZARD INFORMATION, TO DESIGN AND UPDATE ITS OWN PROGRAM AND TO COMPLY WITH ALL NATIONAL, FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS APPLICABLE TO SAFETY, OCCUPATIONAL HEALTH, RIGHT-TO-KNOW AND ENVIRONMENTAL PROTECTION."

## SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products
W.R.Grace & Co.-Conn.
62 Whittemore Ave.
Cambridge, MA 02140

Grace Canada, Inc.
294 Clements Rd. West
Ajax, Ontario, L1S 3C6

Telephone Number for Information and Emergency Response
In USA: (617) 876-1400
In Canada: (905) 683-8561

**MSDS Number: Z-01499 000001 Cancels MSDS # Z-01474 Date: 03/28/2000**

**Trade Names and Synonyms: (SEE SECTION 16 FOR ADDITIONAL PRODUCT IDENTIFICATION)** **TOPKRETE™ TK-610L**

Chemical Names and Family: Cementitious Mixture

Product Use: Fireproofing Product
Formula: Blend Of Portland Cement and Sand

CAS# (Chemical Abstract Service): MIXTURE-NA

## SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION (See Section 11 for Complete Chemical Names)

| INGREDIENT: | Max. % By Wt. | EXPOSURE LIMITS Exposure Limits OSHA | ACGIH | OTHER |
|---|---|---|---|---|
| PORTLAND CEMENT<br>CAS# 65997-15-1 | 50.00 | 10 mg/m3–TWA as Total Dust<br>5 mg/m3–TWA as Respirable Dust | 10 mg/m3–TWA as Total Dust | NIOSH: 10 mg/m3–TWA as Total Dust<br>5 mg/m3–TWA as Respirable Dust |
| NUISANCE PARTICLES<br>CAS# N/A | N/A | 15 mg/m3 – TWA as Total Dust<br>5 mg/m3 – TWA as Respirable Dust | 10 mg/m3–TWA as Total Dust<br>3 mg/m3–TWA as Respirable Dust | None Established |
| QUARTZ (CRYSTALLINE SILCA)<br>CAS# 14808-60-7 | 60.00 | 30 mg/m3÷($SiO_2$+2)-TWA as Total Dust<br>10 mg/m3÷( $SiO_2$+2)-TWA as Respirable Dust | 0.1 mg/m3–TWA as Respirable Dust | NIOSH: 0.05 mg/m3–TWA as Respirable Dust |
| VINYL ACETATE POLYMER<br>CAS# 9003-26-7 | 4.00 | None Established | None Established | None Established |

## EXPOSURE GUIDELINES - CANADA

Employers should check with provincial regulatory agencies for exposure guidelines, which may vary locally.

## SECTION 3 - HAZARDS IDENTIFICATION

**Emergency Overview:**

Warning Statements:

WARNING! IRRITATING TO EYES, SKIN AND RESPIRATORY SYSTEM.

... Contains Portland Cement CAS# 65997-15-1 and Quartz (Crystalline Silica) CAS# 14808-60-7.
... Inhalation of Portland Cement dust may cause coughing and sneezing and result in temporary breathing difficulties. Exposure may aggravate chronic respiratory conditions such as asthma or bronchitis. Repeated inhalation may cause long-term and/or delayed lung injury.
... Cement is very irritating to eyes and skin, when wet or dry. Exposure may cause alkali burns resulting in damage to skin and eyes. May produce allergic reaction potentially associated with Hexavalent chromium.
... Direct contact with force at the spray product may cause physical injury.
... Prolonged and repeated exposure to respirable Crystalline silica can decrease lung function and create risk of lung disease (i.e., silicosis and/or lung cancer).
... Wet material falling on floors, stairs or other surfaces will cause these surfaces to become slippery.
... Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).
... Read and understand all Health and Safety information on the product Label and Material Safety Data Sheet before use.

**NPCA-HMIS Hazard Index:**

- Health: 2 *
- Flammability: 0
- Reactivity: 0
- Personal Protection: E
  (See Section 8)

**Potential Health Effects**

Routes of Exposure:

Inhalation:

Exposure to excessive airborne dust may cause irritation to the respiratory system resulting in coughing, sneezing and dyspnea (shortness of breath, labored breathing). Exposure may also aggravate chronic respiratory conditions such as asthma or bronchitis.

Long-term inhalation of dust may increase the risk of contracting pneumoconiosis (“dusty lungs”) and may also decrease lung function. Prolonged and repeated exposure to respirable silica can result in lung disease (i.e., silicosis and/or lung cancer).

## SECTION 3 - HAZARDS IDENTIFICATION (Cont'd)

Skin and Eye:
May cause acute and/or chronic irritation of eyes and skin. Exposure to skin may produce "Cement Dermatitis" which is usually due to the alkaline and abrasive properties of cement dust and which can involve whole surface areas of the body. Exposure to cement may cause an allergic sensitivity associated with Hexavalent chromium. Prolonged contact with skin may cause burns, especially if skin or product is wet. This may occur without warning since little heat is sensed.

Eye contact may result in inflammation or burns.

Direct contact with the force of the sprayed product stream during application may cause physical injury.

Ingestion:
If swallowed, may cause irritation or burns to the lining of the mouth, esophagus and stomach.

Carcinogenicity Information:
Crystalline silica has been classified as a probable human carcinogen (Group 1) by the International Agency for Research on Cancer (IARC). The National Toxicology Program (NTP) has concluded that respirable Crystalline silica is "reasonably anticipated to be a carcinogen" (N2) based on sufficient animal and limited human data. The substance is also recognized by OSHA as a carcinogen.

(See Section 8-Supplemental Information for additional detail).

## SECTION 4 - FIRST AID MEASURES

| | |
|---|---|
| EYE: | In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart. Do not rub eyes. Contact a physician. |
| SKIN: | In case of skin contact, flush immediately with plenty of water. Wash with soap and water and dry thoroughly. |
| INHALATION: | If inhaled, get fresh air. If symptoms of irritation occur and persist, consult a physician. |
| INGESTION: | If swallowed, call a doctor or poison control center immediately. The decision to induce vomiting should be made by a physician. Never give anything by mouth to an unconscious person. |

## SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not Applicable
Method Used: Not Applicable LEL N/A UEL N/A
N.F.P.A. Rating: Not Applicable

Extinguishing Media
Not Applicable

Special Fire Fighting Procedures
None

Unusual Fire and Explosion Hazards
None Known

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

If spilled, prevent material from entering water systems. Observing the listed Precautionary Measures found in Section 7 of this document:

- Dry spills should be immediately swept up and placed in a suitable container to prevent further release of material.

- Slurry spills should be immediately contained (to minimize the extent of the spill) and absorbed with an inert, non-combustible material. Place material in a suitable container to prevent further release.

## SECTION 7 - HANDLING AND STORAGE INFORMATION

Precautionary Measures:

... Avoid creating and inhaling dust.
... Equip mixers with dust covers.
... Provide ventilation and/or respiratory protection.
... Avoid contact with skin and eyes.
... Wear skin and eye protection to avoid contact with dust or spray.
... Post "Slippery When Wet" signs where appropriate.
... Use Antislip surfaces on working platforms.
... FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:

Local Exhaust: Exhaust fans may be necessary when mixing in enclosed areas.
Mechanical: Exhaust fans may be necessary when mixing in enclosed areas.
Special: Not Applicable
Other: Not Applicable

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont'd)

Respiratory Protection:
Wear NIOSH-approved respiratory protection (generally a N-95 dust mask is appropriate) to prevent employee exposures from exceeding the limits specified in Section 2.

Skin Protection:
Work gloves, barrier creams and boots are recommended to prevent irritation or drying of skin.

Eye Protection:
Proper eye protection is required. At a minimum, safety glasses with side shields should be worn where exposures to excessive dust or spray is likely.

Other Protective Clothing or Equipment:
Normal work clothes.

Work/Hygienic Practices:

Use bag opening and disposal procedures which minimize dust release. Equip mixers with dust covers to minimize dust released during mixing cycle. After each work shift, workers using products containing Portland Cement should shower with soap and water. Work clothing should be changed daily.

Remove fireproofing materials in a manner so as to minimize the creation of dust. All trades should minimize the release of dust during removal of fire protection materials by:

- Wetting fireproofing materials using water, prior to its removal.
- Removing small areas of fireproofing at one time.
- Maintaining a clean worksite.

Prior to welding or cutting, Topkrete™ must be removed from steel surfaces in those immediate areas where exposure to excessive heat, applied either directly or through conduction, from cutting or welding operations is possible.

SUPPLEMENTAL INFORMATION

Quartz (Crystalline silica) is a naturally-occurring mineral that is commonly contained in materials that are mined from the earth's surface such as sand, limestone, clay and gypsum (Calcium sulfate).

Total quartz is a value usually representing the combined fractions of large, nonrespirable sized particles and of respirable sized particles (less than ten microns in aerodynamic diameter). It is only the respirable fraction of total quartz that is recognized as hazardous by professionals in the field of Occupational Health and by most regulatory agencies.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont'd)

Portand Cement may contain trace amounts of heavy metals recognized as carcinogens by NTP, OSHA or IARC.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| Boiling Point: | Not Applicable | Specific Gravity($H_2O$=1) | Not Applicable |
| Vapor Pressure (mm Hg.) | Not Applicable | % Volatiles | Not Applicable |
| Vapor Density(AIR = 1) | Not Applicable | Evaporation Rate (Butyl Acetate = 1) | Not Applicable |
| Solubility in Water: | Slight | pH | 11-13 for Portland Cement |

Bulk Density (#/cu. ft): 17-25

Appearance and Odor: Coarse, free flowing grey powder, no odor.

Odor Threshold:
Not Applicable

## SECTION 10 - STABILITY AND REACTIVITY

Stable under normal conditions (yes or no): YES

Conditions or Materials to avoid (which may react or cause instability):

Prior to welding or cutting, Topkrete™ must be removed from steel surfaces in those immediate areas where exposure to excessive heat applied directly or through conduction from cutting or welding operations is possible.

Hazardous Decomposition or Byproducts:

As a result of incomplete combustion, Styrene monomers and various Polymers may be given off. Temperature in excess of 4000°F may generate Sulfur dioxide ($SO_2$). Upon complete combustion, Carbon monoxide and Carbon dioxide are released.

Hazardous Polymerization:

Will not occur

Conditions to Avoid:

Not Applicable

## SECTION 11 - TOXICOLOGICAL INFORMATION

| INGREDIENT (Chemical Name, CAS#, & Common Name) | TOXICITY DATA: $LD_{50}$, & $LC_{50}$ (See Section 2 for Exposure Limits) |
|---|---|
| **Quartz(Crystalline Silica)** CAS# 14808-60-7 | No Toxicity Data Available |
| **Portland Cement** CAS# 65997-15-1 | No Toxicity Data Available |
| **Vinyl Acetate Polymer** CAS# 9003-20-7 | $LD_{50}$ (oral, rat) > 5,000 mg/kg |

**Reproductive Toxicity** - Not Applicable
**Teratogenicity** - Not Applicable
**Mutagenicity** - Not Applicable
**Toxicologically Synergistic Products** - Not Applicable
**Sensitization** - Not Applicable
**Irritancy** - Not Applicable

Specific toxicity tests have not been conducted on this product. Our hazard evaluation is based on information from similar products, the raw material manufacturer's MSDS, technical literature, and/or professional experience.

## SECTION 12 - ECOLOGICAL INFORMATION

None Available At This Time.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

Wastes of this product such as empty bags and excess material are typically not defined as hazardous.

## SECTION 14 - TRANSPORT INFORMATION

**Transportation Hazard Classification**

PROPER SHIPPING NAME: Not Applicable
HAZARD CLASS: Nonhazardous
IDENTIFICATION #: Not Applicable
LABEL(s) REQUIRED: Not Applicable

Surface Freight Classification: Wall Plaster

**SECTION 15 - REGULATORY INFORMATION** (Not Meant To Be All Inclusive Selected Regulations Represented)

**SARA Title III Reporting Information**

**Tier I & II Hazard Categories:** DELAYED (CHRONIC) HEALTH
IMMEDIATE (ACUTE) HEALTH

Contains Extremely Hazardous-SARA III Section 302 Ingredient: NO
Comments:

Contains Toxic Chemical Release-SARA III Section 313 Ingredient: NO
Comments:

**Other Government Reporting Requirements:**

**CHEMICAL INVENTORY CERTIFICATION:**

**For U.S. Products ONLY**
All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) Inventory or exempt from listing on the TSCA Inventory.

**For Canadian Products ONLY**
All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

**CALIFORNIA PROPOSITION 65 INFORMATION:** WARNING: This product contains substances known to the state of California to cause cancer, birth defects or other reproductive harm.

**NATIONAL VOLATILE ORGANIC COMPOUND EMISSON STANDARDS FOR ARCHITECTURAL COATINGS:**
Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).

**WHMIS CLASS**: D-2A, E
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation **(CPR)**. This MSDS contains all the information required by the CPR.

Nonhazardous Ingredient Disclosure:
Vinyl acetate polymer CAS# 9003-20-7.

## SECTION 16 - OTHER INFORMATION

The information contained in this Material Safety Data Sheet is applicable to the following products:

Topkrete™ TK-610L

"THE DATA INCLUDED HEREIN ARE PRESENTED IN ACCORDANCE WITH VARIOUS ENVIRONMENT, HEALTH AND SAFETY REGULATIONS. IT IS THE RESPONSIBILITY OF A RECIPIENT OF THIS DATA TO REMAIN CURRENTLY INFORMED ON CHEMICAL HAZARD INFORMATION, TO DESIGN AND UPDATE ITS OWN PROGRAM AND TO COMPLY WITH ALL NATIONAL, FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS APPLICABLE TO SAFETY, OCCUPATIONAL HEALTH, RIGHT-TO-KNOW AND ENVIRONMENTAL PROTECTION."

## SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products
W.R.Grace & Co.-Conn.
62 Whittemore Ave.
Cambridge, MA 02140

Grace Canada, Inc.
294 Clements Rd. West
Ajax, Ontario, L1S 3C6

Telephone Number for Information and Emergency Response
In USA: (617) 876-1400
In Canada: (905) 683-8561

**MSDS Number: Z-01491 000001 Cancels MSDS # Z-01433, Z-01434 Date: 03/28/2000**

**Trade Names and Synonyms: (SEE SECTION 16 FOR ADDITIONAL PRODUCT IDENTIFICATION)** **MONOKOTE® Z-106 (All Colors)**

Chemical Names and Family: Cementitious Mixture

Product Use: Fireproofing Product

Formula: Blend Of Portland Cement, Aluminum Ore, Clay, Cellulose & Chopped Glass Filament

CAS# (Chemical Abstract Service): MIXTURE-NA

## SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION (See Section 11 for Complete Chemical Names)

| INGREDIENT: | Max. % By Wt. | EXPOSURE LIMITS Exposure Limits OSHA | ACGIH | OTHER |
|---|---|---|---|---|
| CARBON BLACK<br>CAS# 1333-86-4 | 3.00 | 3.5 mg/m3–TWA | 3.5 mg/m3–TWA | NIOSH: 3.5 mg/m3–TWA |
| CHOPPED CONTINUOUS GLASS FILAMENT<br>CAS# 65997-17-3 | 2.00 | None Established | 10 mg/m3–TWA as Total Dust | None Established |
| PORTLAND CEMENT<br>CAS# 65997-15-1 | 60.00 | 10 mg/m3–TWA as Total Dust<br>5 mg/m3–TWA as Respirable Dust | 10 mg/m3–TWA as Total Dust | NIOSH: 10 mg/m3–TWA as Total Dust<br>5 mg/m3–TWA as Respirable Dust |
| CLAY<br>CAS# 12174-11-7/ 8031-18-3 | 5.00 | None Established | None Established | None Established |
| NUISANCE PARTICLES<br>CAS# N/A | N/A | 15 mg/m3 – TWA as Total Dust<br>5 mg/m3 – TWA as Respirable Dust | 10 mg/m3–TWA as Total Dust<br>3 mg/m3–TWA as Respirable Dus | None Established |
| QUARTZ (CRYSTALLINE SILCA)<br>CAS# 14808-60-7 | 0.50 | 30 mg/m3÷($SiO_2$+2)-TWA as Total Dust<br>10 mg/m3÷( $SiO_2$+2)-TWA as Respirable Dust | 0.1 mg/m3–TWA as Respirable Dust | NIOSH: 0.05 mg/m3–TWA as Respirable Dust |
| ALUMINUM ORE<br>CAS# 1318-16-7 | 30.00 | 10 mg/$m^3$ Total Dust<br>5 mg/$m^3$ Respirable Dust as Alumina | 10 mg/$m^3$ as Alumina | None Established |

## SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION (Cont'd) (See Section 11 for Complete Chemical Names)

**EXPOSURE GUIDELINES - CANADA**

Employers should check with provincial regulatory agencies for exposure guidelines, which may vary locally.

## SECTION 3 - HAZARDS IDENTIFICATION

**Emergency Overview:**

Warning Statements:

WARNING! IRRITATING TO EYES, SKIN AND RESPIRATORY SYSTEM.

... Contains Portland Cement CAS# 65997-15-1, Aluminum ore CAS# 1318-16-7, Quartz (Crystalline Silica) CAS# 14808-60-7, Clay CAS# 12174-11-7/8031-18-3, Chopped continuous glass filament CAS# 65997-17-3, Cellulose CAS#65996-61-4 and Styrene polymer CAS# 9003-53-6. Charcoal and black products also contain Carbon black CAS# 1333-86-4.
... Inhalation of Portland Cement dust may cause coughing and sneezing and result in temporary breathing difficulties. Exposure may aggravate chronic respiratory conditions such as asthma or bronchitis. Repeated inhalation may cause long-term and/or delayed lung injury.
... Cement is very irritating to eyes and skin, when wet or dry. Exposure may cause alkali burns resulting in damage to skin and eyes. May produce allergic reaction potentially associated with Hexavalent chromium.
... Direct contact with force at the spray product may cause physical injury.
... Prolonged and repeated exposure to respirable Crystalline silica and Carbon black can decrease lung function and create risk of lung disease (i.e., silicosis and/or lung cancer).
... Wet material falling on floors, stairs or other surfaces will cause these surfaces to become slippery.
... Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).
... Read and understand all Health and Safety information on the product Label and Material Safety Data Sheet before use.

**NPCA-HMIS Hazard Index:**

- Health: 2 *
- Flammability: 0
- Reactivity: 0
- Personal Protection: E (See Section 8)

## SECTION 3 - HAZARDS IDENTIFICATION (Cont'd)

**Potential Health Effects**

Routes of Exposure:

Inhalation:

Exposure to excessive airborne dust may cause irritation to the respiratory system resulting in coughing, sneezing and dyspnea (shortness of breath, labored breathing). Exposure may also aggravate chronic respiratory conditions such as asthma or bronchitis.

Long-term inhalation of dust may increase the risk of contracting pneumoconiosis ("dusty lungs") and may also decrease lung function. Prolonged and repeated exposure to respirable silica and Carbon black can result in lung disease (i.e., silicosis and/or lung cancer).

Skin and Eye:

May cause acute and/or chronic irritation of eyes and skin. Exposure to skin may produce "Cement Dermatitis" which is usually due to the alkaline and abrasive properties of cement dust and which can involve whole surface areas of the body. Exposure to cement may cause an allergic sensitivity associated with Hexavalent Chromium. Prolonged contact with skin may cause burns, especially if skin or product is wet. This may occur without warning since little heat is sensed.

Eye contact may result in inflammation or burns.

Direct contact with the force of the sprayed product stream during application may cause physical injury.

Ingestion:

If swallowed, may cause irritation or burns to the lining of the mouth, esophagus and stomach.

Carcinogenicity Information:

Crystalline silica has been classified as a probable human carcinogen (Group 1) by the International Agency for Research on Cancer (IARC). The National Toxicology Program (NTP) has concluded that respirable Crystalline silica is "reasonably anticipated to be a carcinogen" (N2) based on sufficient animal and limited human data. The substance is also recognized by OSHA as a carcinogen.

Carbon black is listed by IARC as a known animal carcinogen and possible human carcinogen (Group 2B) based on rat inhalation studies.

(See Section 8-Supplemental Information for additional detail).

## SECTION 4 - FIRST AID MEASURES

EYE: In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart. Do not rub eyes. Contact a physician.

SKIN: In case of skin contact, flush immediately with plenty of water. Wash with soap and water and dry thoroughly.

INHALATION: If inhaled, get fresh air. If symptoms of irritation occur and persist, consult a physician.

INGESTION: If swallowed, call a doctor or poison control center immediately. The decision to induce vomiting should be made by a physician. Never give anything by mouth to an unconscious person.

## SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not Applicable
Method Used: Not Applicable LEL N/A UEL N/A
N.F.P.A. Rating: Not Applicable

Extinguishing Media
Not Applicable

Special Fire Fighting Procedures
None

Unusual Fire and Explosion Hazards
None Known

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

If spilled, prevent material from entering water systems. Observing the listed Precautionary Measures found in Section 7 of this document:

- Dry spills should be immediately swept up and placed in a suitable container to prevent further release of material.

- Slurry spills should be immediately contained (to minimize the extent of the spill) and absorbed with an inert, non-combustible material. Place material in a suitable container to prevent further release.

## SECTION 7 - HANDLING AND STORAGE INFORMATION

Precautionary Measures:

... Avoid creating and inhaling dust.
... Equip mixers with dust covers.
... Provide ventilation and/or respiratory protection.
... Avoid contact with skin and eyes.
... Wear skin and eye protection to avoid contact with dust or spray.
... Post "Slippery When Wet" signs where appropriate.
... Use Antislip surfaces on working platforms.
... FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:

Local Exhaust: Exhaust fans may be necessary when mixing in enclosed areas.
Mechanical: Exhaust fans may be necessary when mixing in enclosed areas.
Special: Not Applicable
Other: Not Applicable

Respiratory Protection:
Wear NIOSH-approved respiratory protection (generally a N-95 dust mask is appropriate) to prevent employee exposures from exceeding the limits specified in Section 2.

Skin Protection:
Work gloves, barrier creams and boots are recommended to prevent irritation or drying of skin.

Eye Protection:
Proper eye protection is required. At a minimum, safety glasses with side shields should be worn where exposures to excessive dust or spray is likely.

Other Protective Clothing or Equipment:
Normal work clothes.

Work/Hygienic Practices:

Use bag opening and disposal procedures which minimize dust release. Equip mixers with dust covers to minimize dust released during mixing cycle. After each work shift, workers using products containing Portland Cement should shower with soap and water. Work clothing should be changed daily.

Remove fireproofing materials in a manner so as to minimize the creation of dust. All trades should minimize the release of dust during removal of fire protection materials by:

- Wetting fireproofing materials using water, prior to its removal.
- Removing small areas of fireproofing at one time.
- Maintaining a clean worksite.

Prior to welding or cutting, Monokote® must be removed from steel surfaces in those immediate areas where exposure to excessive heat, applied either directly or through conduction, from cutting or welding operations is possible.

SUPPLEMENTAL INFORMATION

Quartz (Crystalline silica) is a naturally-occurring mineral that is commonly contained in materials that are mined from the earth's surface such as sand, limestone, clay and gypsum (Calcium sulfate).

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont'd)

Total quartz is a value usually representing the combined fractions of large, nonrespirable sized particles and of respirable sized particles (less than ten microns in aerodynamic diameter). It is only the respirable fraction of total quartz that is recognized as hazardous by professionals in the field of Occupational Health and by most regulatory agencies.

Carbon black is one of the most common coloring agents in use today. It is used in newspaper printing inks, copy machine toner and in paints. In March of 1996, the International Agency for Research on Cancer (IARC) classified Carbon black as a known animal carcinogen and a possible human carcinogen. The recommendation was based on the results of rat inhalation studies of Carbon black, despite the lack of any parallel evidence in humans or other animal species. Carbon black used in Monokote® contains less than 0.1% of adsorbed PAHs (polynuclear aromatic hydrocarbons) and it is not listed by the National Toxicology Program (NTP), the Occupational Safety and Health Administration (OSHA) or the National Institute of Occupational Safety and Health (NIOSH) as a carcinogen.

Clay contained in Monokote® may contain very small particles which might be described as microfibrous (0.02-0.1 µm diameter and 0.1-2.5 µm in length with a mean particle length of 0.4 µm). These particles are not regulated. Studies to date show that these particles are not fibrogenic nor carcinogenic and unlikely to cause pulmonary dysfunction.

Portand Cement may contain trace amounts of heavy metals recognized as carcinogens by NTP, OSHA or IARC.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| Boiling Point: | Not Applicable | Specific Gravity($H_2O$=1) | Not Applicable |
| Vapor Pressure (mm Hg.) | Not Applicable | % Volatiles | Not Applicable |
| Vapor Density(AIR = 1) | Not Applicable | Evaporation Rate (Butyl Acetate = 1) | Not Applicable |
| Solubility in Water: | Slight | pH | 11-13 for Portland Cement |

Bulk Density (#/cu. ft): 17-25

Appearance and Odor: Coarse, free flowing grey to black powder, no odor. (May also be available in special order colors).

Odor Threshold:
Not Applicable

## SECTION 10 - STABILITY AND REACTIVITY

Stable under normal conditions (yes or no): YES

Conditions or Materials to avoid (which may react or cause instability):
Prior to welding or cutting, Monokote® must be removed from steel surfaces in those immediate areas where exposure to excessive heat applied directly or through conduction from cutting or welding operations is possible.

Hazardous Decomposition or Byproducts:
As a result of incomplete combustion, Styrene monomers and various Polymers may be given off. Temperature in excess of 4000°F may generate Sulfur dioxide ($SO_2$). Upon complete combustion, Carbon monoxide and Carbon dioxide are released.

Hazardous Polymerization:
Will not occur

Conditions to Avoid:
Not Applicable

## SECTION 11 - TOXICOLOGICAL INFORMATION

| INGREDIENT (Chemical Name, CAS#, & Common Name) | TOXICITY DATA: $LD_{50}$, & $LC_{50}$ (See Section 2 for Exposure Limits) |
|---|---|
| **Quartz(Crystalline Silica)** CAS# 14808-60-7 | No Toxicity Data Available |
| **Portland Cement** CAS# 65997-15-1 | No Toxicity Data Available |
| **Carbon Black** CAS# 1333-86-4 | $LD_{50}$ (oral, rat) >15,400 mg/kg |
| **Clay (Attapulgite, Fuller's Earth)** CAS# 12174-11-7/8031-18-3 | No Toxicity Data Available |
| **Chopped Continuous Glass Filament** CAS# 65997-17-3 | No Toxicity Data Available |
| **Aluminum Ore** CAS# 1318-16-7 | No Toxicity Data Available |

**Reproductive Toxicity** - Not Applicable
**Teratogenicity** - Not Applicable
**Mutagenicity** - Not Applicable
**Toxicologically Synergistic Products** - Not Applicable
**Sensitization** - Not Applicable
**Irritancy** - Not Applicable

Specific toxicity tests have not been conducted on this product. Our hazard evaluation is based on information from similar products, the raw material manufacturer's MSDS, technical literature, and/or professional experience.

## SECTION 12 - ECOLOGICAL INFORMATION

None Available At This Time.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

Wastes of this product such as empty bags and excess material are typically not defined as hazardous.

## SECTION 14 - TRANSPORT INFORMATION

**Transportation Hazard Classification**

PROPER SHIPPING NAME: Not Applicable
HAZARD CLASS: Nonhazardous
IDENTIFICATION #: Not Applicable
LABEL(s) REQUIRED: Not Applicable

Surface Freight Classification: Wall Plaster

## SECTION 15 - REGULATORY INFORMATION

(Not Meant To Be All Inclusive Selected Regulations Represented)

**SARA Title III Reporting Information**

**Tier I & II Hazard Categories:** DELAYED (CHRONIC) HEALTH
IMMEDIATE (ACUTE) HEALTH

Contains Extremely Hazardous-SARA III Section 302 Ingredient: NO
Comments:

Contains Toxic Chemical Release-SARA III Section 313 Ingredient: NO
Comments:

**Other Government Reporting Requirements:**

**CHEMICAL INVENTORY CERTIFICATION:**

**For U.S. Products ONLY**
All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) Inventory or exempt from listing on the TSCA Inventory.

**For Canadian Products ONLY**
All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

**SECTION 15 - REGULATORY INFORMATION (Cont'd)** (Not Meant To Be All Inclusive Selected Regulations Represented)

**CALIFORNIA PROPOSITION 65 INFORMATION:** WARNING! This product contains substances known to the state of California to cause cancer, birth defects or other reproductive harm.

**NATIONAL VOLATILE ORGANIC COMPOUND EMISSON STANDARDS FOR ARCHITECTURAL COATINGS:**
Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).

**WHMIS CLASS**: D-2A, E
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation **(CPR)**. This MSDS contains all the information required by the CPR.

Nonhazardous Ingredient Disclosure:
Cellulose filler CAS# 65996-61-4 and Styrene polymer CAS# 9003-53-6.

**SECTION 16 - OTHER INFORMATION**

The information contained in this Material Safety Data Sheet is applicable to the following products:

Monokote® Z-106 (All Colors)

"THE DATA INCLUDED HEREIN ARE PRESENTED IN ACCORDANCE WITH VARIOUS ENVIRONMENT, HEALTH AND SAFETY REGULATIONS. IT IS THE RESPONSIBILITY OF A RECIPIENT OF THIS DATA TO REMAIN CURRENTLY INFORMED ON CHEMICAL HAZARD INFORMATION, TO DESIGN AND UPDATE ITS OWN PROGRAM AND TO COMPLY WITH ALL NATIONAL, FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS APPLICABLE TO SAFETY, OCCUPATIONAL HEALTH, RIGHT-TO-KNOW AND ENVIRONMENTAL PROTECTION."

## SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products
W.R.Grace & Co.-Conn.
62 Whittemore Ave.
Cambridge, MA 02140

Grace Canada, Inc.
294 Clements Rd. West
Ajax, Ontario, L1S 3C6

Telephone Number for Information and Emergency Response
In USA: (617) 876-1400
In Canada: (905) 683-8561

**MSDS Number: Z-01498 000001 Cancels MSDS # Z-01466 Date: 03/28/2000**

**Trade Names and Synonyms: (SEE SECTION 16 FOR ADDITIONAL PRODUCT IDENTIFICATION)** **MONOKOTE® Z-3306**

Chemical Names and Family: Cementitious Mixture

Product Use: Thermal Barrier

Formula: Blend Of Portland Cement, Clay, Cellulose & Chopped Glass Filament

CAS# (Chemical Abstract Service): MIXTURE-NA

## SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION (See Section 11 for Complete Chemical Names)

| INGREDIENT: | Max. % By Wt. | EXPOSURE LIMITS Exposure Limits OSHA | ACGIH | OTHER |
|---|---|---|---|---|
| CHOPPED CONTINUOUS GLASS FILAMENT CAS# 65997-17-3 | 4.00 | None Established | 10 mg/m3–TWA as Total Dust | None Established |
| PORTLAND CEMENT CAS# 65997-15-1 | 90.00 | 10 mg/m3–TWA as Total Dust 5 mg/m3–TWA as Respirable Dust | 10 mg/m3–TWA as Total Dust | NIOSH: 10 mg/m3–TWA as Total Dust 5 mg/m3–TWA as Respirable Dust |
| CLAY CAS# 12174-11-7/ 8031-18-3 | 5.00 | None Established | None Established | None Established |
| NUISANCE PARTICLES CAS# N/A | N/A | 15 mg/m3 – TWA as Total Dust 5 mg/m3 – TWA as Respirable Dust | 10 mg/m3–TWA as Total Dust 3 mg/m3–TWA as Respirable Dust | None Established |
| QUARTZ (CRYSTALLINE SILCA) CAS# 14808-60-7 | 0.05 | 30 mg/m3÷($SiO_2$+2)-TWA as Total Dust 10 mg/m3÷( $SiO_2$+2)-TWA as Respirable Dust | 0.1 mg/m3–TWA as Respirable Dust | NIOSH: 0.05 mg/m3–TWA as Respirable Dust |
| VINYL ACETATE POLYMER CAS# 9003-26-7 | 5.00 | None Established | None Established | None Established |

### EXPOSURE GUIDELINES - CANADA

Employers should check with provincial regulatory agencies for exposure guidelines, which may vary locally.

## SECTION 3 - HAZARDS IDENTIFICATION

**Emergency Overview:**

Warning Statements:

WARNING! IRRITATING TO EYES, SKIN AND RESPIRATORY SYSTEM.

... Contains Portland Cement CAS# 65997-15-1, Quartz (Crystalline Silica) CAS# 14808-60-7, Clay CAS# 12174-11-7/8031-18-3, Vinyl acetate polymer CAS# 9003-20-7, Chopped continuous glass filament CAS# 65997-17-3, Cellulose CAS#65996-61-4 and Styrene polymer CAS# 9003-53-6.
... Inhalation of Portland Cement dust may cause coughing and sneezing and result in temporary breathing difficulties. Exposure may aggravate chronic respiratory conditions such as asthma or bronchitis. Repeated inhalation may cause long-term and/or delayed lung injury.
... Cement is very irritating to eyes and skin, when wet or dry. Exposure may cause alkali burns resulting in damage to skin and eyes. May produce allergic reaction potentially associated with Hexavalent chromium.
... Direct contact with force at the spray product may cause physical injury.
... Prolonged and repeated exposure to respirable Crystalline silica can decrease lung function and create risk of lung disease (i.e., silicosis and/or lung cancer).
... Wet material falling on floors, stairs or other surfaces will cause these surfaces to become slippery.
... Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).
... Read and understand all Health and Safety information on the product Label and Material Safety Data Sheet before use.

**NPCA-HMIS Hazard Index:**

- Health: 2 *
- Flammability: 0
- Reactivity: 0
- Personal Protection: E (See Section 8)

**Potential Health Effects**

Routes of Exposure:

Inhalation:

Exposure to excessive airborne dust may cause irritation to the respiratory system resulting in coughing, sneezing and dyspnea (shortness of breath, labored breathing). Exposure may also aggravate chronic respiratory conditions such as asthma or bronchitis.

Long-term inhalation of dust may increase the risk of contracting pneumoconiosis (“dusty lungs”) and may also decrease lung function. Prolonged and repeated exposure to respirable silica can result in lung disease (i.e., silicosis and/or lung cancer).

## SECTION 3 - HAZARDS IDENTIFICATION (Cont'd)

Skin and Eye:
May cause acute and/or chronic irritation of eyes and skin. Exposure to skin may produce "Cement Dermatitis" which is usually due to the alkaline and abrasive properties of cement dust and which can involve whole surface areas of the body. Exposure to cement may cause an allergic sensitivity associated with Hexavalent chromium. Prolonged contact with skin may cause burns, especially if skin or product is wet. This may occur without warning since little heat is sensed.

Eye contact may result in inflammation or burns.

Direct contact with the force of the sprayed product stream during application may cause physical injury.

Ingestion:
If swallowed, may cause irritation or burns to the lining of the mouth, esophagus and stomach.

Carcinogenicity Information:
Crystalline silica has been classified as a probable human carcinogen (Group 1) by the International Agency for Research on Cancer (IARC). The National Toxicology Program (NTP) has concluded that respirable Crystalline silica is "reasonably anticipated to be a carcinogen" (N2) based on sufficient animal and limited human data. The substance is also recognized by OSHA as a carcinogen.

(See Section 8-Supplemental Information for additional detail).

## SECTION 4 - FIRST AID MEASURES

| | |
|---|---|
| EYE: | In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart. Do not rub eyes. Contact a physician. |
| SKIN: | In case of skin contact, flush immediately with plenty of water. Wash with soap and water and dry thoroughly. |
| INHALATION: | If inhaled, get fresh air. If symptoms of irritation occur and persist, consult a physician. |
| INGESTION: | If swallowed, call a doctor or poison control center immediately. The decision to induce vomiting should be made by a physician. Never give anything by mouth to an unconscious person. |

## SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not Applicable
Method Used: Not Applicable LEL N/A UEL N/A
N.F.P.A. Rating: Not Applicable

Extinguishing Media
Not Applicable

Special Fire Fighting Procedures
None

Unusual Fire and Explosion Hazards
None Known

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

If spilled, prevent material from entering water systems. Observing the listed Precautionary Measures found in Section 7 of this document:

- Dry spills should be immediately swept up and placed in a suitable container to prevent further release of material.

- Slurry spills should be immediately contained (to minimize the extent of the spill) and absorbed with an inert, non-combustible material. Place material in a suitable container to prevent further release.

## SECTION 7 - HANDLING AND STORAGE INFORMATION

Precautionary Measures:

... Avoid creating and inhaling dust.
... Equip mixers with dust covers.
... Provide ventilation and/or respiratory protection.
... Avoid contact with skin and eyes.
... Wear skin and eye protection to avoid contact with dust or spray.
... Post "Slippery When Wet" signs where appropriate.
... Use Antislip surfaces on working platforms.
... FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:

Local Exhaust: Exhaust fans may be necessary when mixing in enclosed areas.
Mechanical: Exhaust fans may be necessary when mixing in enclosed areas.
Special: Not Applicable
Other: Not Applicable

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont'd)

Respiratory Protection:
Wear NIOSH-approved respiratory protection (generally a N-95 dust mask is appropriate) to prevent employee exposures from exceeding the limits specified in Section 2.

Skin Protection:
Work gloves, barrier creams and boots are recommended to prevent irritation or drying of skin.

Eye Protection:
Proper eye protection is required. At a minimum, safety glasses with side shields should be worn where exposures to excessive dust or spray is likely.

Other Protective Clothing or Equipment:
Normal work clothes.

Work/Hygienic Practices:

Use bag opening and disposal procedures which minimize dust release. Equip mixers with dust covers to minimize dust released during mixing cycle. After each work shift, workers using products containing Portland Cement should shower with soap and water. Work clothing should be changed daily.

Remove fireproofing materials in a manner so as to minimize the creation of dust. All trades should minimize the release of dust during removal of fire protection materials by:

- Wetting fireproofing materials using water, prior to its removal.
- Removing small areas of fireproofing at one time.
- Maintaining a clean worksite.

Prior to welding or cutting, Monokote® must be removed from steel surfaces in those immediate areas where exposure to excessive heat, applied either directly or through conduction, from cutting or welding operations is possible.

SUPPLEMENTAL INFORMATION

Quartz (Crystalline silica) is a naturally-occurring mineral that is commonly contained in materials that are mined from the earth's surface such as sand, limestone, clay and gypsum (Calcium sulfate).

Total quartz is a value usually representing the combined fractions of large, nonrespirable sized particles and of respirable sized particles (less than ten microns in aerodynamic diameter). It is only the respirable fraction of total quartz that is recognized as hazardous by professionals in the field of Occupational Health and by most regulatory agencies.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont'd)

Clay contained in Monokote® may contain very small particles which might be described as microfibrous (0.02-0.1 µm diameter and 0.1-2.5 µm in length with a mean particle length of 0.4 µm). These particles are not regulated. Studies to date show that these particles are not fibrogenic nor carcinogenic and unlikely to cause pulmonary dysfunction.

Portand Cement may contain trace amounts of heavy metals recognized as carcinogens by NTP, OSHA or IARC.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| Boiling Point: | Not Applicable | Specific Gravity($H_2O$=1) | Not Applicable |
| Vapor Pressure (mm Hg.) | Not Applicable | % Volatiles | Not Applicable |
| Vapor Density(AIR = 1) | Not Applicable | Evaporation Rate (Butyl Acetate = 1) | Not Applicable |
| Solubility in Water: | Slight | pH | 11-13 for Portland Cement |

Bulk Density (#/cu. ft): 17-25

Appearance and Odor: Coarse, free flowing white to grey powder, no odor.

Odor Threshold:
Not Applicable

## SECTION 10 - STABILITY AND REACTIVITY

Stable under normal conditions (yes or no): YES

Conditions or Materials to avoid (which may react or cause instability):
Prior to welding or cutting, Monokote® must be removed from steel surfaces in those immediate areas where exposure to excessive heat applied directly or through conduction from cutting or welding operations is possible.

Hazardous Decomposition or Byproducts:
As a result of incomplete combustion, Styrene monomers and various Polymers may be given off. Temperature in excess of 4000°F may generate Sulfur dioxide ($SO_2$). Upon complete combustion, Carbon monoxide and Carbon dioxide are released.

Hazardous Polymerization:
Will not occur

Conditions to Avoid:
Not Applicable

## SECTION 11 - TOXICOLOGICAL INFORMATION

| INGREDIENT (Chemical Name, CAS#, & Common Name) | TOXICITY DATA: $LD_{50}$, & $LC_{50}$ (See Section 2 for Exposure Limits) |
|---|---|
| **Quartz(Crystalline Silica)** CAS# 14808-60-7 | No Toxicity Data Available |
| **Portland Cement** CAS# 65997-15-1 | No Toxicity Data Available |
| **Vinyl Acetate Polymer** CAS# 9003-20-7 | $LD_{50}$ (oral, rat) > 5,000 mg/kg |
| **Clay (Attapulgite, Fuller's Earth)** CAS# 12174-11-7/8031-18-3 | No Toxicity Data Available |
| **Chopped Continuous Glass Filament** CAS# 65997-17-3 | No Toxicity Data Available |

**Reproductive Toxicity** - Not Applicable
**Teratogenicity** - Not Applicable
**Mutagenicity** - Not Applicable
**Toxicologically Synergistic Products** - Not Applicable
**Sensitization** - Not Applicable
**Irritancy** - Not Applicable

Specific toxicity tests have not been conducted on this product. Our hazard evaluation is based on information from similar products, the raw material manufacturer's MSDS, technical literature, and/or professional experience.

## SECTION 12 - ECOLOGICAL INFORMATION

None Available At This Time.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

Wastes of this product such as empty bags and excess material are typically not defined as hazardous.

## SECTION 14 - TRANSPORT INFORMATION

**Transportation Hazard Classification**

PROPER SHIPPING NAME: Not Applicable
HAZARD CLASS: Nonhazardous
IDENTIFICATION #: Not Applicable
LABEL(s) REQUIRED: Not Applicable

Surface Freight Classification: Wall Plaster

## SECTION 15 - REGULATORY INFORMATION

(Not Meant To Be All Inclusive Selected Regulations Represented)

**SARA Title III Reporting Information**

**Tier I & II Hazard Categories:** DELAYED (CHRONIC) HEALTH
IMMEDIATE (ACUTE) HEALTH

Contains Extremely Hazardous-SARA III Section 302 Ingredient: NO
Comments:

Contains Toxic Chemical Release-SARA III Section 313 Ingredient: NO
Comments:

**Other Government Reporting Requirements:**

**CHEMICAL INVENTORY CERTIFICATION:**

**For U.S. Products ONLY**
All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) Inventory or exempt from listing on the TSCA Inventory.

**For Canadian Products ONLY**
All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

**CALIFORNIA PROPOSITION 65 INFORMATION:** WARNING! This product contains substances known to the state of California to cause cancer, birth defects or other reproductive harm.

**NATIONAL VOLATILE ORGANIC COMPOUND EMISSON STANDARDS FOR ARCHITECTURAL COATINGS:**
Volatile Organic Compound (VOC) Content; 0.0 grms/l EPA-24 (Below Detectable Limit).

**WHMIS CLASS:** D-2A, E
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation **(CPR)**. This MSDS contains all the information required by the CPR.

**SECTION 15 - REGULATORY INFORMATION (Cont'd)** (Not Meant To Be All Inclusive Selected Regulations Represented)

Nonhazardous Ingredient Disclosure:
Cellulose filler CAS# 65996-61-4, Styrene polymer CAS# 9003-53-6 and Vinyl acetate polymer CAS# 9003-20-7.

**SECTION 16 - OTHER INFORMATION**

The information contained in this Material Safety Data Sheet is applicable to the following products:

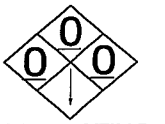
Monokote® Z-3306

"THE DATA INCLUDED HEREIN ARE PRESENTED IN ACCORDANCE WITH VARIOUS ENVIRONMENT, HEALTH AND SAFETY REGULATIONS. IT IS THE RESPONSIBILITY OF A RECIPIENT OF THIS DATA TO REMAIN CURRENTLY INFORMED ON CHEMICAL HAZARD INFORMATION, TO DESIGN AND UPDATE ITS OWN PROGRAM AND TO COMPLY WITH ALL NATIONAL, FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS APPLICABLE TO SAFETY, OCCUPATIONAL HEALTH, RIGHT-TO-KNOW AND ENVIRONMENTAL PROTECTION."

| | |
|---|---|
| Health Hazard | 1 |
| Fire Hazard | 0 |
| Reactivity | 0 |
| Personal Protection | e |

HMIS RATING

# MATERIAL SAFETY DATA SHEET (OSHA 29 CFR 1910.1200)




NFPA RATING

Effective Date: November 12, 2001
Supersedes: December 13, 1999



## SECTION I – PRODUCT INFORMATION

1. MANUFACTURER'S NAME AND ADDRESS:
   United States Mineral Products Company
   dba Isolatek International/CAFCO INDUSTRIES
   41 Furnace Street
   Stanhope, NJ 07874
2. EMERGENCY TELEPHONE NUMBER:
   973-347-1200
3. CHEMICAL NAME AND SYNONYMS
   Spray-Applied Fire Resistive Materials (SFRMs).
4. CHEMICAL FAMILY:
   Silicates and Calcium Sulfates
5. FORMULA:
   Slag Wool and Inorganic Binders
6. TRADE NAMES AND SYNONYMS:
   **CAFCO® BLAZE-SHIELD®, CAFCO BLAZE-SHIELD WHITE, CAFCO BLAZE-SHIELD CHARCOAL, CAFCO BLAZE-SHIELD II, CAFCO BLAZE-SHIELD II WHITE, CAFCO BLAZE-SHIELD II CHARCOAL, CAFCO BLAZE-SHIELD HP, CAFCO BLAZE-SHIELD HP WHITE, CAFCO BLAZE-SHIELD HP CHARCOAL,**

## SECTION II – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

| INGREDIENT | CAS NUMBER | OSHA PEL | ACGIH TLV-TWA |
|---|---|---|---|
| Slag Wool | 65997-17-3 | NE | 1 fiber /cc |
| Powdered Binders & Fillers<br>Nuisance Particulates | N/Ap | Total Dust: 15mg/m$^3$<br>Respirable fraction: 5mg/m$^3$ | 10mg/m$^3$<br>3mg/m$^3$ |

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

| | | |
|---|---|---|
| 1. | Boiling Point (°F): | N/Ap |
| 2. | Vapor Pressure (mm Hg): | N/Ap |
| 3. | Vapor Density (Air=1): | N/Ap |
| 4. | Solubility in Water: | Negligible |
| 5. | Specific Gravity ($H_2O$=1): | >1 |
| 6. | Melting Point (°F): | >1800 |
| 7. | Evaporation Rate: | N/Ap |
| 8. | Appearance and Odor: | White to charcoal, low odor. |
| 9. | Physical State: | Solid |

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | | |
|---|---|---|
| 1. | Flash Point (Method used): | N/Ap |
| 2. | Flammable Limits: | Noncombustible |
| 3. | Extinguishing Media: | N/Ap |
| 4. | Special Fire Fighting Procedures: | N/Ap |
| 5. | Unusual Fire and Explosion Hazards: | None |

## SECTION V - REACTIVITY DATA

| | | |
|---|---|---|
| 1. | Stability: | Stable |
| | Conditions to Avoid: | Contact with strong acids |
| 2. | Incompatibility (Materials to Avoid): | Strong Acids |
| 3. | Hazardous Decomposition Products: | CO,$CO_2$ |
| 4. | Hazardous Polymerization: | Will not occur |
| | Conditions to Avoid: | N/Ap |

**NE = Not Established**
**N/Ap = Not Applicable**

## SECTION VI - HEALTH HAZARD DATA

Primary Routes of Entry: Inhalation, Skin and Eye Contact.

Acute: Slag wool and other nuisance particulates may cause transitory skin irritation (itching) and possible irritation of eyes and upper respiratory tract.

Carcinogenicity: NTP - NO OSHA - NO IARC – 3 (Not classifiable as to human carcinogenicity)

Medical Conditions Aggravated by Exposure: Any condition, which may be aggravated by mechanical irritants.

Emergency and First Aid Procedures:

| | |
|---|---|
| Eye Contact: | *Flush with water. |
| Skin Contact: | *Wash with water. Launder clothing separate from other garments. |
| Inhalation: | *Remove to fresh air. |

*If irritation persists, seek medical attention.

***USE NORMAL PERSONAL HYGIENE AFTER CONTACT TO REMOVE ANY MATERIAL CONTAMINANTS.***

## SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

1. Steps to be taken in case material is released or spilled:
   Sweep up and place in disposal containers. Avoid inhalation of dust.
2. Waste Disposal Method: Land Fill - In accordance with local, state, and federal regulations.
3. Precautions to be taken in handling and storing:
   Avoid inhalation of dust during use. Avoid skin and eye contact. Use normal personal hygiene to remove material contaminants.

## SECTION VIII - CONTROL MEASURES

| | | |
|---|---|---|
| 1. | Respiratory Protection: | Use NIOSH approved dust mask or equivalent for nuisance dust. |
| 2. | Ventilation: | Sufficient to maintain dust levels below TLV. |
| 3. | Protective Gloves: | Wear cloth gloves. |
| 4. | Eye Protection: | Wear proper eye protection. |
| 5. | Other Protective Equipment: | Wear Loose fitting long sleeve shirt and pants. |

## SECTION IX - PREPARATION INFORMATION

**Prepared By: Research Department, U.S.A.**
**Telephone: (973) 347-1200**
**Effective Date: November 12, 2001** **Supersedes: December 13, 1999**

**The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. VENDOR SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. In no event shall the vendor be liable for special, indirect or consequential damages.**

**Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in this data sheet. Additionally, vendor 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 all risks in his use of the material.**

| | |
|---|---|
| Health Hazard | ① |
| Fire Hazard | ⓪ |
| Reactivity | ⓪ |
| Personal Protection | ⓔ |

HMIS RATING

# MATERIAL SAFETY DATA SHEET (OSHA 29 CFR 1910.1200)


NFPA RATING

Effective Date: November 12, 2001
Supersedes: January 6, 1999



## SECTION I - PRODUCT INFORMATION

1. MANUFACTURER'S NAME AND ADDRESS:
   United States Mineral Products Company
   dba Isolatek International/CAFCO INDUSTRIES
   41 Furnace Street
   Stanhope, NJ 07874
2. EMERGENCY TELEPHONE NUMBER:
   973-347-1200
3. CHEMICAL NAME AND SYNONYMS
   Hand-Applied Fire Resistive Materials.
4. CHEMICAL FAMILY:
   Silicates and Calcium Sulfates
5. FORMULA:
   Slag Wool and Inorganic Binders
6. TRADE NAMES AND SYNONYMS:
   **CAFCO® FIBER-PATCH**

## SECTION II – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

| INGREDIENT | CAS NUMBER | OSHA PEL | ACGIH TLV-TWA |
|---|---|---|---|
| Slag Wool | 65997-17-3 | NE | 1 fiber /cc |
| Powdered Binders & Fillers Nuisance Particulates | N/Ap | Total Dust: 15mg/$m^3$ Respirable fraction: 5/mg/$m^3$ | 10mg/$m^3$ 3mg/$m^3$ |

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

| | | |
|---|---|---|
| 1. | Boiling Point (°F): | N/Ap |
| 2. | Vapor Pressure (mm Hg): | N/Ap |
| 3. | Vapor Density (Air=1): | N/Ap |
| 4. | Solubility in Water: | Negligible |
| 5. | Specific Gravity ($H_2O$=1): | >1 |
| 6. | Melting Point (°F): | >1800 |
| 7. | Evaporation Rate: | N/Ap |
| 8. | Appearance and Odor: | White to gray fibrous nodules, low odor. |
| 9. | Physical State: | Solid |

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | | |
|---|---|---|
| 1. | Flash Point (Method used): | N/Ap |
| 2. | Flammable Limits: | Noncombustible |
| 3. | Extinguishing Media: | N/Ap |
| 4. | Special Fire Fighting Procedures: | N/Ap |
| 5. | Unusual Fire and Explosion Hazards: | None |

## SECTION V – REACTIVITY DATA

| | | |
|---|---|---|
| 1. | Stability: | Stable |
| | Conditions to Avoid: | Contact with strong acids |
| 2. | Incompatibility (Materials to Avoid): | Strong Acids |
| 3. | Hazardous Decomposition Products: | CO,$CO_2$ |
| 4. | Hazardous Polymerization: | Will not occur |
| | Conditions to Avoid: | N/Ap |

**NE = Not Established**
**N/Ap = Not Applicable**

## SECTION VI - HEALTH HAZARD DATA

Primary Routes of Entry: Inhalation, Skin and Eye Contact.

Acute: Slag wool and other nuisance particulates may cause transitory skin irritation (itching) and possible irritation of eyes and upper respiratory tract.

Carcinogenicity: NTP - NO OSHA – NO IARC – 3 (Not classifiable as to human carcinogenicity)

Medical Conditions Aggravated by Exposure: Any condition, which may be aggravated by mechanical irritants.

Emergency and First Aid Procedures:

| | |
|---|---|
| Eye Contact: | *Flush with water. |
| Skin Contact: | *Wash with water. Launder clothing separate from other garments. |
| Inhalation: | *Remove to fresh air. |

*If irritation persists, seek medical attention.

***USE NORMAL PERSONAL HYGIENE AFTER CONTACT TO EMOVE ANY MATERIAL CONTAMINANTS.***

## SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

1. Steps to be taken in case material is released or spilled:
   Sweep up and place in disposal containers. Avoid inhalation of dust.
2. Waste Disposal Method: Land Fill - In accordance with local, state, and federal regulations.
3. Precautions to be taken in handling and storing:
   Avoid inhalation of dust during use. Avoid skin and eye contact. Use normal personal hygiene to remove material contaminants.

## SECTION VIII – CONTROL MEASURES

| | | |
|---|---|---|
| 1. | Respiratory Protection: | Use NIOSH approved dust mask or equivalent for nuisance dust. |
| 2. | Ventilation: | Sufficient to maintain dust levels below TLV. |
| 3. | Protective Gloves: | Wear cloth gloves. |
| 4. | Eye Protection: | Wear proper eye protection. |
| 5. | Other Protective Equipment: | Wear Loose fitting long sleeve shirt and pants. |

## SECTION IX – PREPARATION INFORMATION

**Prepared By: Research Department, U.S.A.**
**Telephone: (973) 347-1200**
**Effective Date: November 12, 2001** **Supersedes: Jan. 6, 1999**

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| | |
|---|---|
| Health Hazard | 1* |
| Fire Hazard | 0 |
| Reacitivity | 0 |
| Personal Protection | e |

HMIS RATING

# MATERIAL SAFETY DATA SHEET (OSHA 29 CFR 1910.1200)

NFPA RATING

Effective Date: August 23, 2004
Supersedes: August 21, 2001



## SECTION I – PRODUCT INFORMATION

1. MANUFACTURER'S NAME AND ADDRESS:
   United States Mineral Products Company
   dba Isolatek International/CAFCO INDUSTRIES
   41 Furnace Street
   Stanhope, NJ 07874
2. EMERGENCY TELEPHONE NUMBER:
   973-347-1200
3. CHEMICAL NAME AND SYNONYMS
   Spray-Applied Fire Resistive Materials (SFRMs).
4. CHEMICAL FAMILY:
   Silicates, Calcium Sulfates and Aluminates
5. FORMULA:
   Inorganic Aggregate and Binders
6. TRADE NAMES AND SYNONYMS:
   **CAFCO®300**
   **CAFCO®300 N**
   **CAFCO®300 SB**
   **CAFCO®300 ES**

## SECTION II – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

| INGREDIENT | CAS NUMBER | OSHA PEL | ACGIH TLV-TWA |
|---|---|---|---|
| Powdered Binders & Fillers<br>Nuisance Particulates | N/Ap | Total Dust: 15mg/m$^3$<br>Respirable fraction: 5/mg/m$^3$ | 10mg/m$^3$<br>3mg/m$^3$ |

## SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

| | | |
|---|---|---|
| 1. | Boiling Point (°F): | N/Ap |
| 2. | Vapor Pressure (mm Hg): | N/Ap |
| 3. | Vapor Density (Air=1): | N/Ap |
| 4. | Solubility in Water: | Negligible |
| 5. | Specific Gravity ($H_2O$=1): | >1 |
| 6. | Melting Point (°F): | >1800 |
| 7. | Evaporation Rate: | N/Ap |
| 8. | Appearance and Odor: | CAFCO 300 is white to tan , CAFCO 300SB is green, CAFCO 300 ES is light brick, low odor. |
| 9. | Physical State: | Solid |

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | | |
|---|---|---|
| 1. | Flash Point (Method used): | N/Ap |
| 2. | Flammable Limits: | Noncombustible |
| 3. | Extinguishing Media: | N/Ap |
| 4. | Special Fire Fighting Procedures: | N/Ap |
| 5. | Unusual Fire and Explosion Hazards: | None |

## SECTION V – REACTIVITY DATA

| | | |
|---|---|---|
| 1. | Stability: | Stable |
| | Conditions to Avoid: | Contact with strong acids |
| 2. | Incompatibility (Materials to Avoid): | Strong Acids |
| 3. | Hazardous Decomposition Products: | CO,$CO_2$ |
| 4. | Hazardous Polymerization: | Will not occur |
| | Conditions to Avoid: | N/Ap |

**NE = Not Established**
**N/Ap = Not Applicable**

## SECTION VI - HEALTH HAZARD DATA

Primary Routes of Entry: Inhalation, Skin and Eye Contact.

Acute: Nuisance particulates may cause transitory skin irritation (itching) and possible irritation of eyes and upper respiratory tract.

Chronic: Inhalation over long periods of high amounts of any dust may overload lung clearance mechanisms and may make the lungs more vulnerable to disease.

Carcinogenicity: NTP - NO IARC - NO OSHA - NO

Medical Conditions Aggravated by Exposure: Any condition, which may be aggravated by mechanical irritants.

Emergency and First Aid Procedures:

| | |
|---|---|
| Eye Contact: | *Flush with water. |
| Skin Contact: | *Wash with water. Launder clothing separate from other garments. |
| Inhalation: | *Remove to fresh air. |

*If irritation persists, seek medical attention.

***USE NORMAL PERSONAL HYGIENE AFTER CONTACT TO REMOVE ANY MATERIAL CONTAMINANTS.***

## SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

1. Steps to be taken in case material is released or spilled:
   Sweep up and place in disposal containers. Avoid inhalation of dust.
2. Waste Disposal Method: Land Fill - In accordance with local, state, and federal regulations.
3. Precautions to be taken in handling and storing:
   Avoid inhalation of dust during use. Avoid skin and eye contact. Use normal personal hygiene to remove material contaminants.

## SECTION VIII - CONTROL MEASURES

| | | |
|---|---|---|
| 1. | Respiratory Protection: | Use NIOSH approved dust mask or equivalent for nuisance dust. |
| 2. | Ventilation: | Sufficient to maintain dust levels below TLV. |
| 3. | Protective Gloves: | Wear cloth gloves. |
| 4. | Eye Protection: | Wear proper eye protection. |
| 5. | Other Protective Equipment: | Wear Loose fitting long sleeve shirt and pants. |

## SECTION IX- PREPARATION INFORMATION

**Prepared By: Research Department, U.S.A.**
**Telephone: (973) 347-1200**
**Effective Date: August 23, 2004** **Supersedes: August 21, 2001**

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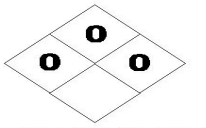
| | |
|---|---|
| Health Hazard | 1* |
| Fire Hazard | 0 |
| Physical Hazard | 0 |
| Personal Protection | E |

HMIS RATING

# MATERIAL SAFETY DATA SHEET (OSHA 29 CFR 1910.1200)




NFPA RATING

Effective Date: February 27, 2004
Supersedes: February 5, 2003



## SECTION I – PRODUCT INFORMATION

1. MANUFACTURER'S NAME AND ADDRESS:
   United States Mineral Products Company
   dba Isolatek International/CAFCO Industries
   41 Furnace Street
   Stanhope, NJ 07874

2. EMERGENCY TELEPHONE NUMBER:
   973-347-1200
3. CHEMICAL NAME AND SYNONYMS
   Spray-Applied Fire Resistive Materials (SFRMs)
4. CHEMICAL FAMILY:
   Silicates, Calcium Sulfates and Aluminates
5. FORMULA:
   Inorganic Aggregates and Binders
6. TRADE NAME AND SYNONYMS:
   **CAFCO® 400**

## SECTION II – HAZARDOUS INGREDIENTS and MAJOR COMPONENT INFORMATION

| INGREDIENT | CAS NUMBER | OSHA PEL | ACGIH TLV-TWA | MAX.% By WT. |
|---|---|---|---|---|
| Portland Cement | 65997-15-1 | Total Dust: 10 mg/m$^3$-TWA<br>Respirable Dust: 5mg/m$^3$-TWA | 10 mg/m$^3$ | 60 |
| Nuisance Particulates | N/A | Total Dust: 15 mg/m$^3$<br>Respirable Fraction: 5 mg/m$^3$ | 10 mg/m$^3$<br>3 mg/m$^3$ | N/A |

## SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

| | | |
|---|---|---|
| 1. | Boiling Point (°F): | N/A |
| 2. | Vapor Pressure (mm Hg): | N/A |
| 3. | Vapor Density (Air=1): | N/A |
| 4. | Solubility in Water: | Negligible |
| 5. | Specific Gravity ($H_2O$=1): | >1 |
| 6. | Melting Point (°F): | >1800 |
| 7. | Evaporation Rate: | N/A |
| 8. | Appearance and Odor: | White to tan, low odor. |
| 9. | Physical State: | Solid |

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | | |
|---|---|---|
| 1. | Flash Point (Method used): | N/A |
| 2. | Flammable Limits: | Noncombustible |
| 3. | Extinguishing Media: | N/A |
| 4. | Special Fire Fighting Procedures: | N/A |
| 5. | Unusual Fire and Explosion Hazards: | None |

## SECTION V - REACTIVITY DATA

| | | |
|---|---|---|
| 1. | Stability: | Stable |
| | Conditions to Avoid: | Contact with strong acids |
| 2. | Incompatibility (Material to Avoid): | Strong acids |
| 3. | Hazardous Decomposition Products: | CO,$CO_2$ |
| 4. | Hazardous Polymerization: | Will not occur |
| | Conditions to Avoid: | N/A |

**N/E - NOT ESTABLISHED**
**N/A = NOT APPLICABLE**

## SECTION VI – HEALTH HAZARD DATA

Primary Routes of Entry: Inhalation, Skin and Eye Contact.

Chronic: Inhalation over long periods of high amounts of any nuisance dust may overload lung clearance mechanisms and may make the lungs more vulnerable to disease.

Carcinogenicity: NTP - NO IARC - NO OSHA - NO

Medical Conditions Aggravated by Exposure: Any condition which may be aggravated by mechanical irritants.

Emergency and First Aid Procedures:

| | |
|---|---|
| Eye Contact: | *Flush with water. |
| Skin Contact: | *Wash with water. Launder clothing separate from other garments. |
| Inhalation: | *Remove to fresh air. |

*If irritation persists, seek medical attention.

***USE NORMAL PERSONAL HYGIENE AFTER CONTACT TO REMOVE ANY MATERIAL CONTAMINANTS.***

## SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

1. Steps to be taken in case material is released or spilled:
   Sweep up and place in disposal containers. Avoid inhalation of dust.
2. Waste Disposal Method: Land Fill - In accordance with local, state, and federal regulations.
3. Precautions to be taken in handling and storing:
   Avoid inhalation of dust during use. Avoid skin and eye contact. Use normal personal hygiene to remove material contaminants.

## SECTION VIII – CONTROL MEASURES

| | | |
|---|---|---|
| 1. | Respiratory Protection: | Use NIOSH approved dust mask such as 3M 8511 N-95 or equivalent. |
| 2. | Ventilation: | Sufficient to maintain dust levels below TLV. |
| 3. | Protective Gloves: | Wear cloth gloves. |
| 4. | Eye Protection: | Wear proper eye protection. |
| 5. | Other Protective Equipment: | Wear Loose fitting long sleeve shirt and pants. |

## SECTION IX – PREPARATION INFORMATION

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