

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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

W.R.Grace & Co.-Conn.

Grace Canada, Inc.

62 Whittemore Ave.

294 Clements Rd. West

Cambridge, MA 02140

Ajax, Ontario, L1S 3C6

Telephone Number for Information and Emergency Response

In USA: (617) 876-1400

In Canada: (905) 683-8561

MSDS Number: Z-01685 000001 Cancels MSDS # Z-01591 Date: 03/12/2007

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

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		
		OSHA	Exposure Limits ACGIH	OTHER
CHOPPED CONTINUOUS GLASS FILAMENT CAS# 65997-17-3	4.00	None Established	10 mg/m ³ -TWA as Total Dust	None Established
PORTLAND CEMENT CAS# 65997-15-1	90.00	10 mg/m ³ -TWA as Total Dust 5 mg/m ³ -TWA as Respirable Dust	10 mg/m ³ -TWA as Total Dust	NIOSH: 10 mg/m ³ -TWA as Total Dust 5 mg/m ³ -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/m ³ - TWA as Total Dust 5 mg/m ³ - TWA as Respirable Dust	10 mg/m ³ -TWA as Total Dust 3 mg/m ³ -TWA as Respirable Dust	None Established
QUARTZ (CRYSTALLINE SILICA) CAS# 14808-60-7	0.05	30 mg/m ³ ÷(SiO ₂ +2)-TWA as Total Dust 10 mg/m ³ ÷(SiO ₂ +2)-TWA as Respirable Dust	0.1 mg/m ³ -TWA as Respirable Dust	NIOSH: 0.05 mg/m ³ -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:

- o Health: 2 *
 - o Flammability: 0
 - o Reactivity: 0
 - o 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:

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

- o Wetting fireproofing materials using water, prior to its removal.
- o Removing small areas of fireproofing at one time.
- o 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 microfibrinous (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(H₂O=1) Not Applicable

Vapor Pressure (mm Hg.) Not Applicable % Volatiles Not Applicable

Vapor Density(AIR = 1) Not Applicable Evaporation Rate Not Applicable
(Butyl Acetate = 1)

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 (SO₂). 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: Not Applicable

NAME

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:** NOComments:**Contains Toxic Chemical Release-SARA III Section 313 Ingredient:** NOComments:**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 EMISSION 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.

(Not Meant To Be All Inclusive)

SECTION 15 - REGULATORY INFORMATION (Cont'd) 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."