



MATERIAL SAFETY DATA SHEET

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SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS PREPARED BY: Environmental Health Department – Grace Construction Products

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Saudi Arabia

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MSDS Number: Z-01456

Date: 06/24/1998

Trade Names and Synonyms

(See Section 16 for Additional
Product Identification)

MONOKOTE® TYPE Z-106 & Type Z-106/HY

Chemical Names and Family:

Cementitious Mixture

Product Use:

Fireproofing Product

Formula:

Blend-Gypsum, Styrene Polymer, Cellulose
Portland Cement & 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.	OSHA	Exposure Limits ACGIH	OTHER
CALCIUM SULFATE Established CAS# 07778-18-9	18.00	PEL: 15mg/m ³ -TWA as Total Dust 5mg/m ³ TWA as Respirable Dust	TLV: 10mg/m ³	None
CHOP CONT. GLASS FILAM. CAS# 65997-17-3	2.00	-	10mg/m ³	-
HYDROUS ALUMINUM SILICATE Established CAS# 08031-18-3	4.00	None Established	None Established	None
HYDROUS MAGNESIUM Established ALUMINUM SILICATE CAS# 12174-11-7	4.00	None Established	None Established	None
PORTLAND CEMENT 10mg/m ³ CAS# 65997-15-1	75.00	10mg/m ³ -TWA as Total Dust 5mg/m ³ -TWA as	10mg/m ³ – TWA	NIOSH: as Total Dust 5mg/m-TWA



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Dust		Respirable Dust	Respirable
RESPIRABLE DUST* CAS# DUS NA	0.00	5mg/m ³ – TWA	3mg/m ³ – TWA -
TOTAL DUST* established CAS# NA	0.00	15mg/m ³ – TWA	TLV/TWA:10mg/m ³ None

SECTION 3 – HAZARDS IDENTIFICATION

Emergency Overview:

Warning Statement:

WARNING! IRRITANT

- Contains Portland Cement CAS# 65997-15-1, Cellulose CAS# 65996-61-4, Gypsum CAS# 7778-18-9, Styrene Polymer CAS# 9003-53-6, Chopped Continuous Glass Filament CAS# 65997-17-3, Hydrous Magnesium Aluminum Silicate CAS# 12174-11-7, Hydrous Aluminum Silicate CAS# 8031-18-3, may contain Aluminum Ore CAS# 1318-16-7.
- Inhalation of Portland Cement Dust may cause coughing and sneezing and result in temporary breathing difficulties. May aggravate chronic respiratory conditions such as asthma or bronchitis. Repeated inhalation may cause long-term and/or delayed lung injury.
- Cement is irritating to eyes and skin, when wet or dry. May cause alkali burns resulting in damage to skin and eyes.
- May cause minor mechanical irritation to eyes. Direct contact with forced spray may injure eyes.
- Wet material falling on floors, stairs or other surfaces will cause these surfaces to become slippery.
- 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 | B, 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 and sneezing, shortness of breath and wheezing; excessive exposure may also aggravate chronic respiratory conditions such as asthma or bronchitis.



Sales Offices:

Manufactured in Saudi Arabia by:
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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 may involve whole surface areas of the body. Cement may cause an allergic sensitivity. Prolonged contact with skin may cause burns, especially if skin or product is wet, and without much warning since little heat is sensed.

EYE contact may result in inflammation or burns. Direct contact with the force of the spray may also cause physical injury.

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

Carcinogenicity Information:

OSHA	- Not applicable
IARC	- Not applicable
NTP	- Not applicable

SECTION 4 – FIRST AIDE MEASURES

EYES In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart. Consult physician.

SKIN In case of skin contact, flush immediately with plenty of water and dry thoroughly. If irritation persists, consult a physician.

INHALATION If inhaled, get fresh air immediately. If symptoms occur and persists, 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	Flammable Limits:	
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:

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



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- Liquid/liquid 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 dust.
- Equip mixer 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 anti-slip surfaces on working platforms.
- FOR PROFESSIONAL USE ONLY. KEEP OUT 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
Others:	Not applicable
Respiratory Protection:	Wear NIOSH-approved respiratory protection 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/Hygenic Practices:	
Use bag opening and disposal procedures which minimize dust release. Equip mixers with dust covers.	
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 operation 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:	



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

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point	: Not applicable	Specific Gravity (H ₂ O=1)	Not applicable
Vapor Pressure (mm Hg.)	: Not applicable	% Volatiles	Not applicable
Vapor Density (AIR = 1)	: Not applicable	<u>Evaporation Rate</u> (Butyl Acetate = 1)	Not applicable
Solubility in Water Cement	: Slight	pH	11-13 for Portland
Bulk Density (#/cu.ft)	: 14-17		
Appearance and Odor	: Coarse, free flowing grey 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):

Prior to welding or cutting, MONOKOTE must be removed from steel surfaces in those immediate areas where direct exposure to excessive heat, applied directly or through conduction, from cutting or welding operations is possible. (See Section 8 for suggested removal practices).

Hazardous Decomposition or Byproducts:

As a result of incomplete combustion, Monomers, various Polymers may be given off. Temperatures 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 (See Section 2 for Exposure Limits)	LD ₅₀ , LC ₅₀ etc.
Portland Cement CAS# 65997-15-1	No data available	
Chopped Continuous Glass Filament CAS# 65997-17-3	No data available	



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Gypsum (Calcium Sulfate)
CAS# 7778-18-9

No data available

SECTION 12 – DISPOSAL CONSIDERATIONS

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

Consult all regulations or qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

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 Ingrdient: NO
Comments:

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

SECTION 16 – OTHER INFORMATION

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

MONOKOTE TYPE Z-106/HY

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.



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