Material Safety Data Sheet

Material Name: Adhesive and Grout
ID: NDM0002

*** Section 1 - Chemical Product and Company Identification ***

Material Name: Adhesive and Grout
Product Use: Adhesive and Grout for Tile

Manufacturer Information:
USA and Puerto Rico: MAPEI
1144 East Newport Center Drive
Deerfield Beach, FL 33442
Phone: 1-954-246-8888

Canada: MAPEI
2900 Francis-Hughes Avenue
Laval, QC H7L 3J5
Phone: 1-450-662-1212

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPLOSION, EXPOSURE OR ACCIDENT, CONTACT THE FOLLOWING NUMBERS:

Emergency 24 hour numbers:
(USA) CHEMTREC 1-800-424-9300
(Canada) CANUTEC 1-631-996-6666

*** Section 2 - Hazards Identification ***

Emergency Overview:
This product has been evaluated using criteria specified in 29CFR 1910.1200 (Hazard Communication Standard). Irritating to eyes. Harmful by inhalation.

Hazard Statements:
CAUTION! Irritating to eyes. Harmful by inhalation. Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material. Wear suitable gloves and eye/face protection. Keep out of the reach of children.

Potential Health Effects: Eyes
This product is irritating to the eyes. Symptoms can include irritation, redness, scratching of the cornea, and tearing.

Potential Health Effects: Skin
This product may cause irritation to the skin. Prolonged and/or repeated skin contact may result in mild irritation or redness. Mechanical rubbing may increase skin irritation.

Potential Health Effects: Ingestion
This product may be harmful if it is swallowed. Ingestion of this product may cause nausea, vomiting and diarrhea.

Potential Health Effects: Inhalation
This product may be harmful by inhalation. Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material. Inhalation of dusts produced during cutting, grinding or sanding of this product may cause irritation of the respiratory tract.

Medical Conditions Aggravated by Exposure
Hypersensitivity to product, allergies, and skin or respiratory disorders

Potential Environmental Effects
None identified.

HMIS Ratings: Health: 1* Fire: 0 Reactivity: 0 Pers. Prot.: gloves, safety glasses
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe  * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
</table>

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Issue Date: 13 February 2009
Revision: 1.0001
Print Date: 2/13/2009
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<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>Description</th>
<th>Content Percentage</th>
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</thead>
<tbody>
<tr>
<td>Silica Sand</td>
<td>14808-60-7</td>
<td>Quartz</td>
<td>30-60</td>
</tr>
<tr>
<td>Limestone</td>
<td>1317-65-3</td>
<td></td>
<td>10-30</td>
</tr>
<tr>
<td>Styrene Acrylic Copolymer</td>
<td>Proprietary</td>
<td>10-30</td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td></td>
<td>3-7</td>
</tr>
<tr>
<td>Aluminum silicate</td>
<td>1327-36-2</td>
<td></td>
<td>1-5</td>
</tr>
<tr>
<td>Acrylic copolymer</td>
<td>Proprietary</td>
<td></td>
<td>1-5</td>
</tr>
</tbody>
</table>

Component Related Regulatory Information
This product may be regulated, have exposure limits or other information identified as the following: Silica, crystalline (general form), Calcium carbonates.

*** Section 4 - First Aid Measures ***

First Aid: Eyes
Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

First Aid: Skin
For skin contact, wash immediately with soap and water. If irritation persists, get medical attention.

First Aid: Ingestion
For ingestion, flush out mouth with water. If ingestion of a large amount does occur, seek medical attention. Do not induce vomiting.

First Aid: Inhalation
If inhaled, immediately remove the affected person to fresh air. If the affected person is not breathing, apply artificial respiration. If symptoms persist, get medical attention.

First Aid: Notes to Physician
Provide general supportive measures and treat symptomatically.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards
See Section 9 for Flammability Properties.
Not a fire hazard. This product is an aqueous mixture which will not burn. If evaporated to dryness, the solid residue may pose a slight fire hazard.

Hazardous Combustion Products
Irritating and toxic gases or fumes may be released during a fire. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Extinguishing Media
Dry chemical (preferred), foam, water.

Specific Hazards Arising From the Chemical
None identified.

Fire Fighting Equipment/Instructions
Firefighters should wear full protective gear.

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Personal Precautions
Avoid the generation of dusts during clean-up. Wear appropriate protective equipment and clothing during clean-up.

Containment Procedures
Contain the discharged material.

Environmental Precautions
Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.
Clean-Up Procedures
Attempt to reclaim the free product, if this is possible. Shovel the material into waste container. Thoroughly wash the area with water after a spill or leak clean-up. Wear appropriate protective equipment and clothing during clean-up.

Evacuation Procedures
None identified.

Special Procedures
Wear a dust mask if dust is generated above exposure limits.

*** Section 7 - Handling and Storage ***

Handling Procedures
Avoid getting this material into contact with your eyes. Avoid prolonged or repeated skin contact with this material. Wash thoroughly after handling. Do not breathe dust from this material.

Storage Procedures
Keep this material in a cool place. Keep the container tightly closed. Do not freeze.

*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits
Quartz (14808-60-7)

ACGIH: 0.025 mg/m3 TWA (respirable fraction)
OSHA: 0.1 mg/m3 TWA (respirable dust)

(Vacated):

NIOSH: 0.05 mg/m3 TWA (respirable dust)
Alberta: Designated substance - requires code of practice (respirable) (related to Silica-crystalline)
0.1 mg/m3 TWA (respirable particulate)

British Columbia: Carcinogen
0.025 mg/m3 TWA (respirable)
Manitoba: 0.025 mg/m3 TWA (respirable fraction)
New Brunswick:

NW: 0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)

Territories:
Nova Scotia: 0.025 mg/m3 TWA (respirable fraction)
Nunavut: 0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)
Ontario: 0.10 mg/m3 TWA(TWAEV
10 mg/m3 TWA EV (designated substance regulation)
Quebec: 0.1 mg/m3 TWA EV (respirable dust)
Saskatchewan: Present (related to Silica crystalline (respirable size))
n: 0.05 mg/m3 TWA (respirable fraction)
Yukon: 300 particles/mL TWA
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Limestone (1317-65-3)

OSHA
15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)
(Final):
OSHA
15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)
(Vacated):
NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)
Alberta: 10 mg/m³ TWA
British Columbia: 10 mg/m³ TWA (total dust); 3 mg/m³ TWA (respirable fraction)
Columbia: 20 mg/m³ STEL (total dust)
New Brunswick:

NW Territories:
Nunavut: 5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass)

Quebec: 10 mg/m³ TWA (particulate matter containing no asbestos and < 1% crystalline silica)

Saskatchewan: 10 mg/m³ TWA

n: 20 mg/m³ STEL

Yukon: 30 mppcf TWA; 10 mg/m³ TWA
20 mg/m³ STEL

Titanium dioxide (13463-67-7)

ACGIH: 10 mg/m³ TWA
OSHA
15 mg/m³ TWA (total dust)
(Final):
OSHA
10 mg/m³ TWA (total dust)
(Vacated):
Alberta: 10 mg/m³ TWA
British Columbia: IARC Category 2B - Possible Human Carcinogen
Columbia: 10 mg/m³ TWA (total dust); 3 mg/m³ TWA (respirable fraction)
Manitoba: 10 mg/m³ TWA
New Brunswick:

NW Territories:

Nova Scotia: 10 mg/m³ TWA
Nunavut: 5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass)
Ontario: 10 mg/m³ TWA (total dust)
Quebec: 10 mg/m³ TWA (total dust, containing no asbestos and less than 1% crystalline silica)

Saskatchewan: 10 mg/m³ TWA

n: 20 mg/m³ STEL

Yukon: 30 mppcf TWA; 10 mg/m³ TWA
20 mg/m³ STEL

Engineering Controls
Use general ventilation.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face
Wear safety glasses with side shields.

Personal Protective Equipment: Skin
The use of nitrile-latex gloves is recommended.
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**Personal Protective Equipment: Respiratory**
If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

**Personal Protective Equipment: General**
Launder contaminated clothing before reuse. Use good industrial hygiene practices in handling this material.

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**Section 9 - Physical & Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Flowable semi solid</td>
</tr>
<tr>
<td>Physical State</td>
<td>Paste</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>N/A</td>
</tr>
<tr>
<td>Octanol/H2O Coeff.</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Odor**
Mild acrylic odor

**pH**
N/A

**Vapor Density**
N/A

**Specific Gravity**
1.3-2.5

**VOC**
51 g/L

**Flash Point**
N/A

**Upper Flammability Limit (UFL)**
N/A

**Lower Flammability Limit (LFL)**
N/A

**Burning Rate**
N/A

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**Section 10 - Chemical Stability & Reactivity Information**

**Chemical Stability**
Stable under normal conditions.

**Chemical Stability: Conditions to Avoid**
Keep away from heat, ignition sources and incompatible materials.

**Incompatibility**
This product may react with strong acids, bases and oxidizing agents.

**Hazardous Decomposition**
Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

**Possibility of Hazardous Reactions**
Will not occur.

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**Section 11 - Toxicological Information**

**Acute Dose Effects**

**A: General Product Information**
No information available for the product.

**B: Component Analysis - LD50/LC50**
- **Quartz (14808-60-7)**
  - Oral LD50 Rat: 500 mg/kg

- **Titanium dioxide (13463-67-7)**
  - Oral LD50 Rat: >10000 mg/kg
Carcinogenicity

A: General Product Information

Exposure to quartz (the most stable and common form of crystalline silica) is responsible for the majority of clinically diagnosed silicosis. Silicosis is a fibronodular lung disease that occurs after occupational exposure to crystalline silica for 5 years or longer. Inhalation of quartz dusts may cause shortness of breath, limitation of chest expansion, dry cough, and a lessened capacity for work. Individuals with a pre-existing disease in, or a history of ailments involving the skin or respiratory tract, are at a greater risk of developing adverse health effects when exposed to this material.

B: Component Carcinogenicity

Quartz (14808-60-7)

- ACGIH: A2 - Suspected Human Carcinogen
- NIOSH: potential occupational carcinogen
- NTP: Known Human Carcinogen (Select Carcinogen)
- IARC: Monograph 68 [1997] (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources) (Group 1 (carcinogenic to humans))

Titanium dioxide (13463-67-7)

- ACGIH: A4 - Not Classifiable as a Human Carcinogen
- NIOSH: potential occupational carcinogen
- IARC: Monograph 93 [in preparation], Monograph 47 [1989] (Group 2B (possibly carcinogenic to humans))

Sensitization

No information available for the product.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

No information available for the product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

A: General Product Information

No additional information available.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Waste must be handled in accordance with all federal, state, provincial, and local regulations. Consult authorities before disposal.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

International Transportation Regulations

Not regulated as dangerous goods.

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List. All components of this product are included, or are exempt from inclusion, in the Canadian Domestic Substance List unless otherwise noted.
B: Component Analysis
None of this product's components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations
A: General Product Information
Other state regulations may apply. Check individual state requirements.

B: Component Analysis - State
The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
<th>RI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Limestone</td>
<td>1317-65-3</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Canadian WHMIS Information
A: General Product Information

B: Component Analysis - WHMIS IDL
The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Minimum Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>1 %</td>
</tr>
</tbody>
</table>

Additional Regulatory Information
A: General Product Information
Supplier(s) of proprietary component(s) state that these components are contained on the TSCA inventory.
B: Component Analysis - Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>TSCA</th>
<th>CAN</th>
<th>EEC</th>
</tr>
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<tbody>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
</tr>
<tr>
<td>Limestone</td>
<td>1317-65-3</td>
<td>Yes</td>
<td>NDSL</td>
<td>EINECS</td>
</tr>
<tr>
<td>Styrene Acrlic Copolymer</td>
<td>Proprietary</td>
<td>Yes</td>
<td>DSL</td>
<td>No</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
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<tr>
<td>Aluminum silicate</td>
<td>1327-36-2</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
</tr>
<tr>
<td>Acrylic Copolymer</td>
<td>Proprietary</td>
<td>Yes</td>
<td>DSL</td>
<td>No</td>
</tr>
</tbody>
</table>

*** Section 16 - Other Information ***

Other Information
Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Key/Legend
NA = Not available or Not Applicable. BLV=Biological Limit Values TLV = Threshold Limit Value. NFPA = National Fire Protection Association. HMIS = Hazardous Material Information System. CFR = Code of Federal Regulations. EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Contact: MAPEI
Contact Phone: 1-800-42-MAPEI

End of Sheet NDM0002