



26300 La Alameda, Suite 250  
Mission Viejo, CA 92691

**MATERIAL SAFETY DATA SHEET**

Telephone: 1-800-942-7343 (1-800-9HARDIE) 24Hr. emergency pager (909)514-2149  
Date Revised: 9/29/00

**IDENTIFICATION**

**Product Name/Trade Names:**  
Hardibacker® 500 with G2 technology.

**Other Names:** Fiber-cement, Fiber-reinforced cement

**UN No:** None Allocated  
**Dangerous Goods Class:** None Allocated  
**Hazchem Code:** None Allocated  
**Poisons Schedule:** None Allocated

**Use:** The above product is used as tile underlayment.

**INGREDIENTS**

Substance Name	CAS Number	Proportion
Calcium Silicate (Hydrate)	1344-95-2	50-60%
Crystalline Silica (Quartz)	14808-60-7	35-45%
Cellulose	9004-34-6	<10%
Other non hazardous ingredients	-	<10%
Fillers)	-	<10%
Glass (non-crystalline SiO <sub>2</sub> )	-	<10%
Mullite	1302-93-8	<6%

**PHYSICAL AND CHEMICAL ROPERTIES**

**Appearance and Odor:** Solid gray boards with varying dimensions according to product

**Vapor Pressure:** Not Relevant  
**Specific Gravity:** Not Relevant  
**Flammability Limits:** Not Relevant  
**Boiling Point:** Not Relevant  
**Melting Points:** Not Relevant

**Flash Point:** Not Relevant  
**Autoignition Temp:** Not Relevant  
**Volatility:** Not Relevant  
**Solubility in Water:** Not Relevant



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**HEALTH HAZARD INFORMATION**

**HEALTH EFFECTS:**

**Acute Effects:**

- Swallowed:** Unlikely under normal conditions of use, but swallowing the dust from this product may result in irritation or damage to the mouth and gastrointestinal tract due to alkalinity of dust.
- Eye:** Dust may irritate the eyes from mechanical abrasion causing watering and redness.
- Skin:** Dust may cause irritation of the skin from friction but cannot be absorbed through intact skin.
- Inhaled:** Dust may cause irritation of the nose, throat, and airways, resulting in coughing and sneezing. Certain susceptible individuals may experience wheezing (spasms of the bronchial airways) on inhaling dust during sanding or sawing operations.

**Chronic Effects:**

- Inhaled:** Repeated and prolonged overexposures to dust containing crystalline silica causes silicosis (scarring of the lung) and increases the risk of bronchitis, tuberculosis, lung cancer, renal disease, and scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels, and internal organs). Studies have shown cigarette smoking increases the risk of silicosis, bronchitis, and lung cancer in persons also exposed to crystalline silica.

The following relates to health effects of cellulose: Based on limited animal research, it is possible that repeated installation of cellulose fiber dust over time may lead to inflammation and scarring of the lung in humans. Precautions taken for crystalline silica dust will protect against cellulose.

**Carcinogenicity:**

**Proposition 65 Warning:** Respirable crystalline silica is known to the State of California to cause cancer.

**International Agency for the Research on Cancer (IARC):** Crystalline silica inhaled in the forms of quartz or cristobalite from occupational sources is carcinogenic to humans.

**The National Toxicology Program (NTP):** has concluded that respirable crystalline silica is a known human carcinogen.

**Signs and symptoms of over exposure:** Breathlessness, wheezing, cough, sputum production

**Medical conditions generally aggravated by exposure:** Pulmonary function may be reduced by inhalation of respirable crystalline silica and/or cellulose. If lung scarring occurs, such scarring could aggravate other lung conditions such as asthma, emphysema, pneumonia, or restrictive diseases. Lung scarring from crystalline silica may also increase risks to pulmonary tuberculosis.

**First Aid:**

- Swallowed:** If swallowed, dilute by drinking large amounts of water. Do not induce vomiting. Seek medical attention.
- Eye Contact:** Flush with running water or saline for at least 15 minutes. Seek medical attention if redness persists or if visual changes occur.
- Skin Contact:** Wash with mild soap and water.
- Inhaled:** Remove to fresh air. If shortness of breath or wheezing develop, seek medical attention.



ADVICE TO DOCTOR: Treat symptomatically

**PRECAUTIONS FOR USE**

**EXPOSURE STANDARDS**

OSHA Permissible Exposure Standards (PEL): exposures shall not exceed an 8-hour time weighted average limit as stated in 29 CFR 1910.1000 Table Z-3 for mineral dusts.

	<u>Mppcf</u>	<u>mg/m<sup>3</sup></u>
Crystalline Silica (Quartz) (respirable)	<u>250</u> %SiO <sub>2</sub> +5	<u>10mg/m<sup>3</sup></u> %SiO <sub>2</sub> +2
Quartz (Total Dust)		<u>30mg/m<sup>3</sup></u> %SiO <sub>2</sub> +2
Calcium Silicate (Total Dust) (Respirable)		15 mg/ m <sup>3</sup> 5 mg/ m <sup>3</sup>
Nuisance Dust (Not Otherwise Specified) (Total Dust)	50	15 mg/ m <sup>3</sup>
(Respirable)	15	5 mg/ m <sup>3</sup>
Cellulose (Total) (Respirable)		15 mg/ m <sup>3</sup> 5 mg/ m <sup>3</sup>
Amorphous (non-crystalline SiO <sub>2</sub> ) Opallite	-	-

**Other Limits Recommended:**

- a) ACGIH TLV: Crystalline Silica (Quartz) TLV-TWA= 0.05mg/ m<sup>3</sup> (respirable dust) See Documentation of the Threshold Limit Values and Biological Exposures Indices, ACGIH.

**ENGINEERING CONTROLS**

**Note:** The building boards in their intact state do not present a health hazard. The warnings below apply to dust generated from the boards by cutting, drilling, routing, sawing, crushing, or otherwise abrading.

James Hardie's recommendation: Keep exposure to dust as low as possible. Respirable crystalline silica levels should not exceed those specified by OSHA as identified on page 3.

Wherever possible, practices likely to generate dust should be carried out in well ventilated areas. (e.g. outside)

The following tools are recommended to minimize dust levels:

**Use:** "Score and Snap" method with James Hardie's Special tungsten tipped score and snap knife. Fiber cement electric or pneumatic shears (Snapper Lite™, Windshear™ or equivalent Pneumatic Guillotine)



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If the above tools are not used the dust generated when cutting, drilling, or abrading the product is likely to be much greater. To minimize exposure, suitable protection must be worn (See Personal Protection).

### PERSONAL PROTECTION

- Eye:** If cutting materials with power tools, dust resistant safety goggles/glasses should be worn.
- Skin:** Direct contact with skin should be avoided by wearing long sleeved shirts, pants, hat and gloves. Exposure to dust on work clothes should be avoided when changing or removing clothes. Work clothes should be washed regularly.
- Inhalation:** If drilling, sanding, or cutting using abrasive methods, a NIOSH approved dust mask or respirator fitted with (N,R, or P) 100 filters are required.

Water should be used to suppress dust generation and a particulate respirator will be necessary if removal of dust using vacuum equipment is not possible.

Care should be taken to ensure that respirators are NIOSH approved and are fitted correctly according to manufacturers' instructions. Note that persons with facial hair will have difficulty in obtaining satisfactory face seal. For alternatives, consult the respirator manufacturer.

### STORAGE AND TRANSPORT

There are no special requirements for storage and transport.

### SPILLS AND DISPOSAL

Good housekeeping practices are necessary for cleaning up areas where building boards have been cut resulting in dust and/or offcuts. A fine water spray should be used to suppress dust when sweeping. Vacuuming, preferably with an industrial vacuum cleaner, is preferred to sweeping. Waste may be disposed of by landfill in compliance with federal, state and, local requirements.

### FIRE AND EXPLOSION HAZARD

James Hardie fiber-cement products are not flammable.

### OTHER INFORMATION

**Smoking:** Cigarette smoking increases the risk of occupational respiratory diseases. Accordingly James Hardie recommends you do not smoke.

### CONTACT POINT

If additional information is required please contact James Hardie Building Products Technical Service at 1-800-9HARDIE



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**WARNING**

**WARNING  
AVOID BREATHING SILICA DUST**

Product contains silica. Inhalation of respirable silica dust can cause silicosis a potentially disabling lung disease, and is known to the State of California to cause lung cancer. When drilling, cutting, or abrading product during installation or handling. (1) Work outdoors where feasible, otherwise use mechanical ventilation, (2) Wear a dust mask or, if dust may exceed PEL, use NIOSH approved respirator, (3) Warn other in area. For further information, refer to material safety data sheet or consult employer.

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