

**W. R. GRACE**

**MATERIAL SAFETY DATA SHEET**

Product Name Grace Specialty Vermiculite (including the following Specialty products Verxite<sup>®</sup>, Pool Cushion, Plaster Aggregate, Friction Vermiculite, Terralite, FPSV<sup>®</sup>)

MSDS ID Number: Z-01655

MSDS Date: 06/06/2006

**SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** Grace Specialty Vermiculite (including the following Specialty products Verxite<sup>®</sup>, Pool Cushion, Plaster Aggregate, Friction Vermiculite, Terralite, FPSV<sup>®</sup>)

**MSDS Number:** Z-01655

**Cancelled MSDS Number:** Z-01588, Z-01539, Z-01417, Z-01347, Z-01478, Z-01375, Z-01504, Z-01445, Z-01415, Z-01539, Z-01594

**MSDS Date:** 06/06/2006

**Chemical Family Name:** Expanded Vermiculite Magnesium-Aluminosilicate Mineral.

**Product Use:** Aggregate Absorbing Cushioning Material

**Chemical Formula:** (Mg, Ca, K, Fe<sup>11</sup>)<sub>3</sub> (Si, Al, Fe<sup>11</sup>)<sub>4</sub> O<sup>3</sup><sub>10</sub> (OH)<sub>2</sub> H<sub>2</sub>O

**CAS # (Chemical Abstracts Service Number):** Mixture-NA

**Manufactured by:**

W.R.Grace & Co.-Conn. 62 Whittemore Avenue Cambridge, MA 02140	Grace Canada, Inc. 294 Clements Road West Ajax, Ontario L1S 3C6
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**In Case of Emergency Call:**

In USA: (617) 876-1400 In Canada: (905) 683-8561

**SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Ingredient</b>	<b>CAS#</b>	<b>Percent (max)</b>
Quartz	014808-60-7	1-10
Vermiculite	001318-00-9	50-100

Note: See additional information in Work Hygienic Practices Section of this MSDS for additional information concerning Quartz.

**SECTION 3 - HAZARDS IDENTIFICATION**

**Emergency Overview:**

**Caution!**

Causes eye irritation.  
Causes respiratory tract irritation.  
Avoid contact with eyes.

**HMIS Rating:**

Health: 1  
Flammability: 0  
Reactivity: 0  
Personal Protective Equipment: E

**Potential Health Effects:**

**Inhalation:** Causes respiratory tract irritation.  
Effects include: Coughing, shortness of breath, wheezing and reduced pulmonary function from pneumoconiosis (dusty lungs).

**Eye Contact:** Eye contact causes physical irritation.  
Prolonged eye contact can result in redness and itching.

**Skin Contact:** Skin contact is not expected to cause any harmful effects.

**Skin Absorption:** Not expected to be harmful if absorbed through the skin.

**Ingestion:**  
Ingestion not expected to be harmful.  
Effects include: No other effects expected unless listed below.

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**SECTION 4 - FIRST AID MEASURES:**

**Skin Contact:** Wash with soap and water.

If discomfort or irritation persists, consult a physician.

Remove contaminated clothing and wash before reuse.

**Eye Contact:** Flush eyes with water for at least 15 minutes while holding eyelids open.

If discomfort or irritation persists, consult a physician.

**Ingestion:** Adverse health effects are not expected if swallowed.

**Inhalation:** If symptoms develop, get fresh air. If symptoms persist, consult a physician.

If breathing has stopped, give artificial respiration then oxygen if needed.

**SECTION 5 - FIRE AND EXPLOSION HAZARD DATA**

**Flash Point:** Not Applicable

**Flash Point Method:** Not Applicable

**Lower Explosion Limit:** Not Available

**Upper Explosion Limit:** Not Available

**Auto-ignition Temperature:** Not Available

**NFPA Rating:**

**Health:** 1

**Flammability:** 0

**Reactivity:** 0

**Extinguishing Media:** Not Applicable. Product will not burn.

**Special Fire Fighting Procedures:** None

**Unusual Fire and Explosion Hazards:** None.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES:**

**Spills/Leaks:** Carefully shovel or sweep up spilled material and place in suitable container for recycle or disposal. Dampen with water spray or use other methods to clean spill, which avoid creating dust.

Discard empty packaging promptly. Avoid excessive handling of empty packaging, which may result in unnecessary release of airborne particulates.

Use proper personal protective equipment

**SECTION 7 - HANDLING AND STORAGE**

**Precautionary Measures:**

Avoid contact with eyes, skin and clothing.

Avoid creating and inhaling airborne dust or particulates.

Use only with adequate ventilation.

Wash clothing before reuse.

Equip mixers with dust covers.

Provide respiratory protection if needed.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

**SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT**

**EXPOSURE GUIDELINES (US)**

Ingredient	ACGIH TLV			OSHA PEL			Other
	TWA	STEL	Ceiling	TWA	STEL	Ceiling	
Quartz	0.05 mg/m3 TWA (respirable fraction)	-	-	respirable dust: 0.1 mg/m3 TWA	-	-	-
Vermiculite	-	-	-	-	-	-	-

In addition to the exposure limits referenced above, the following non-specific limits for dust apply to this product; OSHA, 15 mg/m3-TWA or Total Dust and 5 mg/m3-TWA as Respirable Dust, ACGIH, 10 mg/m3-TWA as Total Dust and 3 mg/m3-TWA as Respirable Dust.

**EXPOSURE GUIDELINES (CANADA)**

Employers should consult local Provincial regulatory limits for exposure guidelines which may vary locally.

**Engineering Controls:** General ventilation may be desirable and should be used where appropriate.

**Personal Protective Equipment:**

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**Respiratory Protection:** Respiratory protection may be desirable if dust is created in handling and is required at or above the Permissible Exposure Limit (PEL) for nuisance particulates.

**Skin Protection:** Gloves are recommended.

**Eye Protection:** Safety glasses or goggles should be worn.

**Work/Hygienic Practices:** Use good personal hygiene practices.

Grace has not been able to detect respirable sized quartz in vermiculite above the current Permissible Exposure Limit (PEL) during industrial hygiene sampling of workers at Grace production facilities. We believe that the highest potential for exposure exists at our production facilities due to the high volume of product produced and handled. In addition a wet sieving analysis combined with x-ray diffractometry has been conducted on vermiculite. Results indicate that respirable quartz is not present above the 0.1% by weight limit established by the Occupational Safety and Health Administration (OSHA) for carcinogens. OSHA states that if the hazardous substance is contained in the product below 0.1% by weight and exposures do not exceed permissible exposure limits, then the hazards do not apply.

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, 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. This product contains compounds subject to exposure guidelines and/or identified as carcinogens. (See Sections 8 and 11). However, due to the physical nature of this product, these compounds are unlikely to reach exposure limits.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State:</b>	Solid
<b>Appearance/Odor:</b>	Brown or Grey free flowing aggregate
<b>Odor Threshold:</b> (ppm)	Not Determined
<b>pH:</b>	Not Applicable
<b>Vapor Pressure:</b> (Mm Hg)	Unknown
<b>Vapor Density:</b> (Air = 1)	Unknown
<b>Solubility In Water:</b>	Negligible
<b>Specific Gravity:</b> (Water = 1)	Not Applicable
<b>Evaporation Rate:</b> (Butyl Acetate = 1)	Not Applicable
<b>Boiling Point:</b>	Not Applicable
<b>Viscosity:</b>	Not Applicable
<b>Bulk Density:</b> (Pounds/Cubic Foot)(Pcf)	4-10 PCF
<b>% Volatiles (gr/L):</b> (70°F) (21°C)	Not Available

**SECTION 10 - STABILITY AND REACTIVITY**

<b>Chemical Stability:</b>	Stable
<b>Conditions To Avoid:</b>	Vermiculite is often used as a chemical absorbent. When contact with highly reactive chemicals or chemicals that can off-gas at temperatures above room temperature (such as Hydrogen peroxide solutions) care should be taken to neutralize or make these materials inert prior to absorption. If possible consult the MSDS or supplier of the material being absorbed.
<b>Hazardous Polymerization:</b>	Will not polymerize.
<b>Hazardous Decomposition Products:</b>	None known for this product.

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**SECTION 11 - TOXICOLOGICAL INFORMATION****Ingredient(No data unless listed.)****CAS Number****LD50 and LC50****Carcinogenicity:**

Ingredient	IARC Group 1	IARC Group 2A	IARC Group 2B	NTP Known	NTP Suspect	OSHA
Quartz	Yes	No	No	Yes	Yes	Yes
Vermiculite	No	No	No	No	No	No

Prolonged exposure to respirable crystalline silica (Quartz) has been associated with a lung cancer health risk in humans. See information in work hygienic practices section (Section 8) concerning quartz.

**Mutagenicity:** Not applicable.

**Teratogenicity:** Not applicable.

**Reproductive Toxicity:** Not applicable.

**SECTION 12 - ECOLOGICAL INFORMATION**

**Environmental Fate:** No data available for product.

**Ecotoxicity:** No data available for product.

**SECTION 13 - DISPOSAL CONSIDERATIONS**

**Waste Disposal Procedures:** Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. According to EPA (40 CFR § 261), waste of this product is not defined as hazardous. Dispose of waste in accordance with all applicable regulations. According to US EPA (40 CFR § 261.3) waste of this product is not defined as hazardous.

**SECTION 14 - TRANSPORTATION INFORMATION**

**Proper Shipping Name:** Not Applicable

**UN/NA Number:** Not Applicable

**Domestic Hazard Class:** Nonhazardous

**Surface Freight Classification:** Vermiculite, other thin vermiculite

**Label/Placard Required:** Not Applicable

**SECTION 15 - REGULATORY INFORMATION****REGULATORY CHEMICAL LISTS:****CERCLA (Comprehensive Response Compensation and Liability Act):**

**(None present unless listed below)**

<b>Chemical Name</b>	<b>CAS #</b>	<b>Wt %</b>	<b>CERCLA RQ</b>
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**SARA Title III (Superfund Amendments and Reauthorization Act)****SARA Section 312/Tier I & II Hazard Categories:**

Health Immediate (acute)	No
Health Delayed (chronic)	No
Flammable	No
Reactive	No
Pressure	No

**302 Reportable Ingredients (Identification Threshold 1%):**

<b>Chemical Name</b>	<b>CAS #</b>	<b>Wt %</b>	<b>SARA 302 TPQ</b>
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**313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):**

<b>Chemical Name</b>	<b>CAS #</b>	<b>Wt %</b>
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**National Volatile Organic Compound Emission Standards For Architectural Coatings:**

**Volatile Organic Content:** (gr/L) Not Applicable

**WHMIS Classification(s):** 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.

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MSDS ID Number: Z-01655  
MSDS Date: 06/06/2006

**State Regulatory Information:**

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

**Massachusetts Hazardous Substance List(Identification threshold 0.001%(1ppm)):**

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
Quartz	014808-60-7	1

**New Jersey Hazardous Substance List(Identification threshold (0.1%)):**

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
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**Pennsylvania Hazardous Substance List(Identification threshold 0.01%):**

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
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**CHEMICAL INVENTORY STATUS:**

All chemicals in this product are listed or exempt from listing in the following countries:

US	CANADA		EUROPE	AUSTRALIA	JAPAN	KOREA	PHILIPPINES
TSCA	DSL	NDSL	EINECS/ELINCS	AICS	ENCS	ECL	PICCS
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**SECTION 16 - OTHER INFORMATION**

**Non-Hazardous Ingredient Disclosure:**

Chemical Name

CAS Number

Prepared by: EH&S Department  
Approved by: EH&S Department  
Approved Date: 06/06/2006

**Disclaimer:**

"The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the 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."