

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products  
 W.R.Grace & Co.-Conn. W. R. Grace & Co. of Canada Ltd.  
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MSDS Number: Z-01400 000CDA Cancels MSDS # Z-01327 Date: 10/30/1995

## SECTION 1 - PRODUCT IDENTIFICATION

Trade Names and Synonyms: MICROWHITE™ VERMICULITE DISPERSION  
 (SEE SECTION 12 FOR ADDITIONAL  
 PRODUCT IDENTIFICATION)

Chemical Names and Family: Chemically Delaminated Vermiculite  
 (from South Carolina Ore Concentrate)  
 Dispersed in Water  
Product Use: High Temperature Coating, Filler, Binder  
Formula: (Li,K) · (Mg,Ca,FeII)<sub>3</sub>(Si,Al,  
 Fe<sup>III</sup>)<sub>4</sub>O<sub>10</sub>(OH)<sub>2</sub> · H<sub>2</sub>O

CAS# (Chemical Abstract Service): MIXTURE-NA

### Transportation Hazard Classification

United States DOT	Canadian Regulations
PROPER SHIPPING: Not Applicable	TDG CLASS: Nonhazardous
HAZARD CLASS: Nonhazardous	
IDENTIFICATION #: Not Applicable	
LABEL(s) REQUIRED: Not Applicable	

Surface Freight Classification: Silicate Solution Class 55

NPCA-HMIS Hazard Index:

- o Health: 1
- o Flammability: 0
- o Reactivity: 0
- o Personal Protection: B  
(See Section 8)

## SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

INGREDIENT (Chemical Name, CAS#, & Common Name)	% By Wt.	TOXICITY DATA: LD 50 & LC50 (See Section 9 for Exposure Limits)
Not Applicable		

Not Applicable

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**SECTION 3 - PHYSICAL DATA/CHEMICAL CHARACTERISTICS**

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Boiling Point: 212°F (100°C)                      Specific Gravity:(H<sub>2</sub>O = 1) 1.05

Vapor Pressure (mm Hg.) 20 @ 22°C                      % Volatiles:                      80-95%  
(As Water)

Vapor Density (AIR = 1) 1.18 @ 22°C                      Evaporation Rate:                      Unknown  
(Butyl Acetate=1)

Solubility in Water: Miscible                      pH:                      6.5 - 8.5  
With Water

Bulk Density (#/cu. ft): Not Applicable

Appearance and Odor: Aqueous dispersion, white, no appreciable odor

Odor Threshold:  
None Established

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**SECTION 4 - FIRE AND EXPLOSION HAZARD DATA**

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Flash Point: Not Applicable                      Flammable Limits:  
Method Used:                      LEL NA                      UEL NA

N.F.P.A. Rating: Not Applicable

Extinguishing Media

This product is an aqueous solution and is unlikely to burn until all water has evaporated. Vermiculite is inorganic and will not burn. However, Proprietary Ingredients are organic and will burn in some situations. In case of fire use water, dry chemical, CO<sub>2</sub> or alcohol foam.

Special Fire Fighting Procedures  
None Known

Unusual Fire and Explosion Hazards  
None Known

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**SECTION 5 - REACTIVITY DATA**

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Stable under normal conditions (yes or no): YES

Conditions or Materials to avoid (which may react or cause instability):  
None Known

Hazardous Decomposition or Byproducts:

If material is heated, the proprietary organic ingredients contained in this product may produce smoke and irritating fumes including carbon monoxide and carbon dioxide.

Hazardous Polymerization:  
Not expected to occur

Conditions to Avoid:  
None Known

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**SECTION 6 - HEALTH HAZARD DATA & TOXICOLOGICAL PROPERTIES**

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Routes of Exposure:Inhalation:

Not expected to occur. If spray mists are generated, inhalation may cause slight irritation to nose and respiratory passages.

Skin and Eye:

May be irritating to EYES upon contact with liquid or spray. Short contact periods with SKIN do not usually cause skin irritation. Repeated and/or prolonged contact can result in skin irritation.

Ingestion:

Not expected to be harmful if swallowed. However, irritation or upset stomach may result due to slight alkaline nature of the product.

Carcinogenicity According to NTP, IARC and OSHA:

Not Applicable (See Section 8 for information regarding Quartz.)

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**SECTION 7 - EMERGENCY AND FIRST AID PROCEDURES**

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SKIN: Wash with plenty of soap and water. If irritation develops, get medical attention. Wash contaminated clothing before reuse.

EYES: Immediately flush with plenty of water for at least 15 minutes. If irritation develops, have eyes examined and treated by medical personnel.

INGESTION: Give large quantities of water to drink for dilution effect. If gastrointestinal symptoms develop, consult medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Get fresh air. If respiratory irritation or discomfort develops or persists, consult medical personnel.

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**SECTION 8 - PREVENTIVE & CONTROL MEASURES**

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Warning Statements:

CAUTION! MAY CAUSE SLIGHT IRRITATION.

- ... MICROWHITE[ Vermiculite Dispersions contains Chemically Delaminated Vermiculite and other associated minerals including quartz CAS# 110638-71-6, Water CAS# 7732-18-5, Titanium Dioxide CAS# 13463-67-7 and Proprietary Ingredients (See information in Work Hygienic Practices Section of MSDS for additional information.).
- ... May cause irritation to eyes upon contact.
- ... May cause skin irritation upon prolonged or repeated contact.
- ... May cause slight irritation to nose and respiratory passages if mist is created.
- ... Contact with water-reactive chemicals may result in explosion or hazardous reaction.

Precautionary Measures:

- ... Avoid contact with eyes, skin and clothing.
- ... Avoid breathing mist.
- ... Wash thoroughly after handling.
- ... For professional use only. Keep out of children's reach.

Respiratory Protection:

A NIOSH Type TC-21C-XXX dust respirator is recommended if significant mist or dust is created in handling or processing and should be required if necessary to prevent exposure above the limits specified in Section 9.

Ventilation:

- Local Exhaust: Not generally required, but should be used where available.
- Mechanical: Not generally required, but should be used where available.
- Special: Ovens or furnaces used to dry product should be properly vented.
- Other: Use in areas with adequate general ventilation.

Skin Protection:

Rubber or synthetic gloves are recommended when necessary to prevent prolonged or repeated skin contact.

Eye Protection:

Not generally required. If mists are created or if splashing is likely, goggles should be worn.

Other Protective Clothing or Equipment:

Not Generally Required

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**SECTION 8 - PREVENTIVE & CONTROL MEASURES (CONTINUED)**

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Work/Hygienic Practices:

Use good hygiene practices and observe the precautions noted above.

## SUPPLEMENTAL INFORMATION:

**Vermiculite:** This product is a chemically delaminated vermiculite dispersed in 80-95% water. The vermiculite used in this product is a naturally-occurring mineral mined in South Carolina which contains tremolite in the ore body. Except for trace amounts, the tremolite which is predominately non-fibrous is removed from the vermiculite during processing.

In an effort to assure that this product is high purity, W. R. Grace & Co. has retained the services of an outside independent laboratory. This laboratory has analyzed samples using state-of-the-art electron microscopy at 10,000x. Using this technique, no fibrous tremolite has been detected.

**Quartz:** Section 8 of this MSDS indicates that this product can contain quartz (Crystalline Silica). Quartz 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. Quartz is represented by the combined fractions of non-respirable sized particles and of respirable sized particles (less than ten microns in aerodynamic diameter).

Respirable sized quartz has been tied to more serious health effects (silicosis and lung cancer). Grace has not been able to detect any respirable sized quartz in MICROWHITE Vermiculite Dispersion based on industrial hygiene sampling conducted during spray drying of the material. Due to the high volume of product handled, we believe the highest potential for exposure existed during this process. In addition, this product when sold to our customers is in a liquid state which further decreases the potential for exposure to any respirable sized dusts.

In addition, a wet sieving analysis combined with x-ray diffractometry has been conducted on MICROWHITE Vermiculite Dispersion. 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 and in fact is below the limits of detection for the analysis. OSHA states that if the hazardous substance is contained in the product below 0.1% by weight and if exposures do not exceed permissible exposure limits then the hazards do not apply.

Results of monitoring and analysis are available upon request.

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**SECTION 9 - HAZARDOUS INGREDIENTS EXPOSURE LIMITS - Canada Only**

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For additional information, refer to:

American Conference of Governmental and Industrial Hygienists  
Ontario Occupational Health and Safety Act  
Quebec Environment Quality Act  
Alberta Occupational Health and Safety Act  
British Columbia Workers' Compensation Act

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**SECTION 10 - SPILL & DISPOSAL INFORMATION - Canada Only**

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**SECTION 11 - OTHER GOVERNMENT INFORMATION - Canada Only**

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WHMIS CLASS:

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**SECTION 12 - PRODUCT IDENTIFICATION/TRADENAME ADDENDUM**

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

MICROWHITE™ Vermiculite Dispersion

"The data included herein are presented according to W. R. Grace & Co. of Canada Ltd.'s practices current at the time of preparation hereof and are made available solely for the consideration, investigation and verification of the original recipients hereof and do not constitute a representation or warranty for which Grace assumes legal responsibility. 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 federal, provincial and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."