

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

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products  
 W.R.Grace & Co.-Conn. Grace Canada, Inc.  
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 Cambridge, MA 02140 Ajax, Ontario, L1S 3C6  
 Telephone Number for Information and Emergency Response  
 In USA: (617) 876-1400 In Canada: (905) 683-8561

MSDS Number: Z-01504 000001 Cancels MSDS # Z-01459 Date: 06/28/2000

**Trade Names and Synonyms:** ZONOLITE® INDUSTRIAL, AGRICULTURAL,  
 TERRA-LITE®, HORTICULTURAL VERMICULITES (SC)  
 (SEE SECTION 16 FOR ADDITIONAL  
 PRODUCT IDENTIFICATION)

Chemical Names and Family: Expanded Vermiculite (Enoree, South  
 Carolina Source) Magnesium-Alumino-  
 silicate Mineral

Product Use: Insulating, Absorbing and Cushioning  
 Material

Formula: (Mg,Ca,K,Fe<sup>11</sup>)<sub>3</sub>(Si,Al,Fe<sup>111</sup>)<sub>4</sub>  
 O<sub>10</sub>(OH)<sub>2</sub>.H<sub>2</sub>O

CAS# (Chemical Abstract Service): 01318-00-9

**SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION**  
 (See Section 11 for Complete Chemical Names)

INGREDIENT:	Max. % By Wt.	EXPOSURE LIMITS		
		OSHA	Exposure Limits ACGIH	OTHER
RESPIRABLE DUST* CAS# NA	NA	5 mg/m3 TWA	3 mg/m3 TWA	-----
TOTAL DUST* CAS# NA	NA	15 mg/m3 TWA	TLV/TWA: 10 mg/m3	None Established

**EXPOSURE GUIDELINES - CANADA**

Employers should check with provincial regulatory agencies for exposure guidelines,  
 which may vary locally.

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**SECTION 3 - HAZARDS IDENTIFICATION**

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**Emergency Overview:****Warning Statements:**

CAUTION! MAY CAUSE SLIGHT IRRITATION.

- ... Product contains Vermiculite CAS# 1318-00-9 and other associated minerals, including Quartz CAS# 14808-60-7. (See information in Work/Hygienic Practices Section of MSDS for additional information)
- ... Eye contact may cause minor physician irritation.
- ... Inhalation of dust may cause upper respiratory irritation with coughing and sneezing.
- ... Read and understand all Health and Safety information on the product Label and Material Safety Data Sheet before use.

**NPCA-HMIS Hazard Index:**

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

**Potential Health Effects****Routes of Exposure:****Inhalation:**

Dust that may be released in handling may cause symptoms typical of nuisance dusts, including coughing, sneezing and minor upper respiratory irritation.

**Skin and Eye:**

Direct eye contact may cause minor physical or mechanical irritation. Skin contact is not expected to cause any harmful effects.

**Ingestion:**

Not considered harmful by ingestion.

**Carcinogenicity Information:**

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

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**SECTION 4 - FIRST AID MEASURES**

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- EYE:** In case of eye contact, do not rub eyes. Flush with plenty of water while holding eyelids apart. If irritation, blinking or tearing occur and persist, consult a physician.
- INGESTION:** Adverse health effects are not expected if swallowed. Consult a physician if symptoms develop.
- INHALATION:** If inhaled, get fresh air. If symptoms persist, consult a physician.

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**SECTION 5 - FIRE FIGHTING MEASURES**

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Flash Point: None

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

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**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

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Observing the above precautions, sweep up or shovel spilled material and place in suitable containers 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.

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**SECTION 7 - HANDLING AND STORAGE INFORMATION**

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Precautionary Measures:

- ... Avoid contact with eyes.
- ... Avoid creating dust.
- ... Equip hoppers with dust covers where applicable.
- ... Provide adequate ventilation and respiratory protection if necessary.
- ... FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

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**SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION**

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Ventilation:

Local Exhaust: Not generally required, but should be used where applicable.

Mechanical: Not generally required, but should be used where applicable.

Special: None

Other: None

Respiratory Protection:

A NIOSH (Type TC-21C-XXX) dust respirator may be desirable if dust is created in handling and is required at or above the Permissible Exposure Limit (PEL) for Nuisance Particulates. Consult MSDS Section 2 for exposure limits.

Skin Protection:

Not generally required.

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**SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont'd)**


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Eye Protection:

Goggles recommended.

Other Protective Clothing or Equipment:

Normal work clothes.

Work/Hygienic Practices:

Observe precautions noted above.

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 respirable sized quartz in vermiculite above the current permissible exposure limit during industrial hygiene sampling of workers at Grace production facilities. We believe 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 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 - PHYSICAL AND CHEMICAL PROPERTIES**


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<u>Boiling Point:</u> Not Applicable	<u>Specific Gravity</u> (H <sub>2</sub> O=1) Not Applicable
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<u>Vapor Pressure</u> (mm Hg.) Not Applicable	<u>% Volatiles</u> Not Applicable
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<u>Vapor Density</u> (AIR = 1) Not Applicable	<u>Evaporation Rate</u> Not Applicable (Butyl Acetate = 1)
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<u>Solubility in Water:</u> Negligible	<u>pH</u> Not Applicable
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Bulk Density (#/cu. ft): 4 - 10 PCFAppearance and Odor: Brown or grey free flowing aggregate with slight earthy odor.Odor Threshold:

None Determined

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**SECTION 10 - STABILITY AND REACTIVITY**

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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:  
None Known

Hazardous Polymerization:  
Will not occur

Conditions to Avoid:

Vermiculite is often used as a chemical absorbent. When contact with highly reactive chemicals or chemicals which 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.

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**SECTION 11 - TOXICOLOGICAL INFORMATION**

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INGREDIENT (Chemical Name, CAS#, & Common Name)	TOXICITY DATA LD <sub>50</sub> , LC <sub>50</sub> etc.  (See Section 2 for Exposure Limits)
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Not Applicable

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**SECTION 12 - ECOLOGICAL INFORMATION**

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None Available At This Time.

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**SECTION 13 - DISPOSAL CONSIDERATIONS**

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Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. 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.

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**SECTION 14 - TRANSPORT INFORMATION**

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**Transportation Hazard Classification**

PROPER SHIPPING: Not Applicable

<u>HAZARD CLASS:</u>	Nonhazardous
<u>IDENTIFICATION #:</u>	Not Applicable
<u>LABEL(s) REQUIRED:</u>	Not Applicable

Surface Freight Classification: Vermiculite, Other than Crude

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**SECTION 15 - REGULATORY INFORMATION** (Not Meant To Be All Inclusive  
Selected Regulations Represented)

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**SARA Title III Reporting Information**

**Tier I & II Hazard Categories:** IMMEDIATE (ACUTE) HEALTH

Contains Extremely Hazardous-SARA III Section 302 Ingredient: NO  
Comments:

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

**Other Government Reporting Requirements:****CHEMICAL INVENTORY CERTIFICATION:****For U.S. Products ONLY**

All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) Inventory or exempt from listing on the TSCA Inventory.

**For Canadian Products ONLY**

All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

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

**WHMIS CLASS:** Not WHMIS regulated.

Nonhazardous Ingredient Disclosure:  
Not Applicable

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**SECTION 16 - OTHER INFORMATION**

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

Zonolite® Industrial Vermiculite  
Agricultural Vermiculite  
Terra-Lite® Vermiculite  
Horticultural Vermiculite

"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."