

06151362

U.S. DEPARTMENT OF LABOR

DATE: July 19, 1977 Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I	
MANUFACTURER'S NAME W. R. Grace & Company	EMERGENCY TELEPHONE NO. 1-617-876-1400 X 457
ADDRESS (Number, Street, City, State, and ZIP Code) 62 Whittemore Avenue-Cambridge, MA 02140	
Quality Assurance Manager	
CHEMICAL NAME AND SYNONYMS Expanded Libby, Montana Vermiculite	TRADE NAME AND SYNONYMS Industrial Vermiculite-Size #4
CHEMICAL FAMILY Magnesium Aluminosilicate Mineral	FORMULA (Mg,Ca,K)-(Al,Fe,Mg)-(Si,Al) ₄ (OH) ₂ H ₂ O

SECTION II - HAZARDOUS INGREDIENTS
Contains less than 0.5% by weight of a naturally occurring contaminant tremolite. OSHA Regulation 1910.1001 defines tremolite as asbestos. Some forms of tremolite are platy. Other forms can be fibrillated by physical handling to release airborne "asbestos fibers". Regulation 1910.1001 places a limit of 2 "asbestos fibers"/cc; 8 hour time weighted average and a maximum of 10 "asbestos fibers"/cc at any one time for airborne fiber exposure. The physical handling given to expanded vermiculite can release both airborne fibers and nuisance dust. Refer to OSHA Regulation 1910.1001 for approved control procedures.

SECTION III - PHYSICAL DATA			
BOILING POINT (°F.)	NA	SPECIFIC GRAVITY (H ₂ O=1)	NA
VAPOR PRESSURE (mm Hg.)	NA	PERCENT VOLATILE BY VOLUME (%)	NA
VAPOR DENSITY (AIR=1)	NA	EVAPORATION RATE (_____=1)	NA
SOLUBILITY IN WATER	slight, if any	Bulk Density lbs./c.f.	5-7
APPEARANCE AND ODOR Free flowing dark brown to tan colored particles.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA			
NOT APPLICABLE			
FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

WRG 06767

The information contained herein is based on knowledge believed to be reliable but W.R. GRACE & CO. MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AS TO THE ACCURACY OR ADEQUACY THEREOF. Nothing herein excuses the recipient hereof from such duties as shall be imposed by the Occupational Safety and Health Act of 1970 and regulations issued pursuant thereto.

C614305

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

Dust respirable fraction 5 mgm/M³. Total dust 15 mgm/M³.

Airborne asbestos fiber 2f/cc T. W. A.-Ceiling 10f/cc at one time.

EMERGENCY AND FIRST AID PROCEDURES

NA

SECTION VI - REACTIVITY DATA NOT APPLICABLE

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS
POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Dampen slightly or use other techniques which control airborne fibers and dust

within the limits of Section V above.

WASTE DISPOSAL METHOD

Use disposal techniques which control airborne fibers and

dust within the TLV limits of Section V above. See OSHA Standard

1910.1001, Paragraph (h) (2) Waste Disposal.

SECTION VIII - SPECIAL PROTECTION INFORMATION

See OSHA 1910.1001 - Controls such as isolation, enclosure, exhaust ventilation and dust collection shall be used if necessary to meet exposure limits. Also see OSHA Standard 1910.1001 Personal Protective Equipment for dealing with work environments in excess of exposure limits.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

OTHER PRECAUTIONS

06161364

U.S. DEPARTMENT OF LABOR	
DATE: July 19, 1977 Occupational Safety and Health Administration	
MATERIAL SAFETY DATA SHEET	
Required under USDL Safety and Health Regulations for Ship Repairing Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)	

SECTION I	
MANUFACTURER'S NAME W. R. Grace & Company	EMERGENCY TELEPHONE NO. 1-617-876-1400 X 457
ADDRESS (Number, Street, City, State, and ZIP Code) 62 Whittemore Avenue-Cambridge, MA 02140	Quality Assurance Manager
CHEMICAL NAME AND SYNONYMS Expanded South Carolina Vermiculite	TRADE NAME AND SYNONYMS Industrial Vermiculite-Size #3 & #4
CHEMICAL FAMILY Magnesium Aluminosilicate Mineral	FORMULA (Mg,Ca,K)-(Al,Fe,Mg)-(Si,Al) ₄ (O) ₁₀ (OH) ₂ H ₂ O

SECTION II - HAZARDOUS INGREDIENTS
Contains a naturally occurring mixture of amphibole contaminants; hornblende and tremolite. The predominant morphology of the contaminant is platy (non-fibrous). OSHA Regulation 1910.1001 defines tremolite as asbestos. Less than 5% of the contaminant is in a form which can be fibrillated by physical handling to release airborne "asbestos fibers". Regulation 1910.1001 places a limit of 2 "asbestos fibers"/cc; 8 hour time weighted average and a maximum of 10 "asbestos fibers"/cc at any one time for airborne fiber exposure.
The physical handling given to expanded vermiculite can release both airborne fibers and nuisance dust. Extensive sampling of a wide variety of work stations has shown that airborne fiber levels are substantially lower than the Regulation 1910.1001 limits for permissible exposure.

SECTION III - PHYSICAL DATA			
BOILING POINT (°F.)	NA	SPECIFIC GRAVITY (H ₂ O=1)	NA
VAPOR PRESSURE (mm Hg.)	NA	PERCENT VOLATILE BY VOLUME (%)	NA
VAPOR DENSITY (AIR=1)	NA	EVAPORATION RATE (—=1)	NA
SOLUBILITY IN WATER	slight, if any	Bulk Density lbs./c.f.	5-7
APPEARANCE AND ODOR Free flowing dark brown to tan colored particles.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA NOT APPLICABLE			
FLASH POINT (Method used)	FLAMMABLE LIMITS	Let	Uet
EXTINGUISHING MEDIA			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

WRG 06769

PAGE (1)

(Continued on reverse side)

Form OSHA-20
Rev. May 72

The information contained herein is based on knowledge believed to be reliable but W.R. GRACE & CO. MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AS TO THE ACCURACY OR ADEQUACY THEREOF. Nothing herein excuses the recipient hereof from such duties as shall be imposed by the Occupational Safety and Health Act of 1970 and regulations issued pursuant thereto.

06141365

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	Dust respirable fraction 5 mgm/M ³ . Total dust 15 mgm/M ³ .
EMERGENCY AND FIRST AID PROCEDURES	
NA	

SECTION VI - REACTIVITY DATA NOT APPLICABLE			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE		
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR		

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Dampen slightly or use other techniques which control airborne dust within the limits of Section V above.	
WASTE DISPOSAL METHOD	
Use disposal techniques which control airborne dust within the TLV limits of Section V above.	

SECTION VIII - SPECIAL PROTECTION INFORMATION	
---	--

Respiratory Protection: If TLV is exceeded, use disposal respirator, Type TC-21C-132; 3M # 8710 or similar disposable or reusable respirator.

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	
OTHER PRECAUTIONS	

WRG 06770