Palabora Global Limited
Unique Brand Legacy Since 1948
125 TownPark Drive, Suite 300, Kennesaw, GA 30144, USA

SAFETY DATA SHEET — VERMICULITE

SUPPLIER CONTACT

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1. PRODUCT IDENTIFICATION

Chemical Names and Synonyms: Vermiculite & Jefferisite or Vaalite
CAS Number: 1318-00-9

2. COMPOSITION

Vermiculite is the mineralogical name given to hydrated laminar mangesium-aluminum-iron silicates which resemble mica in appearance. When subjected to heat, crude vermiculite has the unusual property of exfoliating or expanding into worm-like particles (the name vermiculite is derived from the Latin 'vermiculare', meaning to breed worms).

Main Components		
Name	Chemical Formula	Amount
Vermiculite	$(Mg,Fe^{2+}, Al)_3 (Al,Si))O_{10} (OH)_2$ 4H2O	85 -95%
Apatite	$Ca_5 (F,Cl) (PO_4)_3$	<5%
Mica phlogopite	$K2(Mg,Fe2^{+})_6 (Si_6Al_2)O_{20} (OH, F)_4$	<5%
Diopside	$Ca(Mg, Fe^{2+})Si_2O_6$	<5%
Alpha cristobalite & Tridymite	SiO_2	<0.1%
Alpha Quartz	SiO_2	0.01– 0.05%
Vermiculite CAS No -1318-00-9 ACGIH TLV(T) -10 mg/m3 ACGIH TLV (R) - 3 mg/m3, Other - 30 mppcf		

3. HAZARDOUS IDENTIFICATION

Symptoms of overexposure for each potential route of exposure:

Inhaled - Coughing

Contact with skin or eyes - Possible eye irritation from dust particles; wear eye protection

Absorbed through skin - N/A

Swallowed - N/A

Health effects or risks from exposure:

Acute - None

Chronic - Excessive inhalation over long period may cause harmful irritation; use mask suitable for nuisance dust.

Target Organ - None

4. FIRST AID MEASURES

Inhalation: Induced coughing

Skin contact: Harmless

Eye contact: Flush eyes with plenty of running water for 10 minutes. See medical doctor if particles are still lodged in the eye.

5. FIRE FIGHTING MEASURES

Flash point: Vermiculite is an inorganic, fully oxidized, non-flammable and non-combustible material.

6. ACCIDENTAL RELEASE MEASURES

Use - Area should be well ventilated. Prevent flakes from entering the eyes. Do not inhale dust.

Personal protective equipment (minimum required) - Use eye protection to prevent particles from entering eye. If dust levels are high - use a dust mask (FFP2).

Spill response procedures - (include employee protection measures) - Vacuum clean or sweep material, use dust masks suitable for nuisance dust (FFP2) and eye protection.

7. HANDLING AND STORAGE

Handling:

Ventilation and engineering controls: maintain dust level below TLV.

Respiratory protection (type): masks suitable for nuisance dust (FFP2).

Eye protection (type): protective goggles or similar.

Storage:

Maintain good housekeeping to avoid transient dust.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation and engineering controls: maintain dust level below TLV.

Respiratory protection (type): masks suitable for nuisance dust.

Eye protection (type): protective goggles or similar where there is a risk of penetrative eye injuries.

9. PHYSICAL AND CHEMICAL PROPERTIES

Golden brown alkaline flakes.

Odourless.

Insoluble in water. Insoluble in organic solvents. Soluble in strong mineral acids.

pH: 8.0 to 9.0. (40g/l water at 20ºC).

Slightly-abrasive, non-irritant, reflecting & rot-proof.

Melting point: 1350°C (collapse and coalescence of the individual flakes begin at this temperature).

Specific gravity: 2.5 g/cm3

Decomposition temperature: Stable liquidus state is achieved at temperatures of circa 1570ºC and sintering occurs at temperatures above 1600ºC. The decomposition temperature has never been determined.

10. STABILITY AND REACTIVITY

Stable.

11. TOXICOLOGICAL INFORMATION

Additional toxicology :-

Salmonella typhimurium mutagenicity - Not mutagenic at extract concentrations below 2 000 g/l.

Frog (Xenopus leavis) embryo teratogenicity:- Not teratogenic at extract concentrations below 1 000 g/l.

12. ECOLOGICAL INFORMATION

No current data available

13. DISPOSAL CONSIDERATIONS

Dispose in bulk or containers according to local dump requirements. No special treatment required.

Note: dispose of all wastes in accordance with federal, state, and local regulations.

14. TRANSPORT INFORMATION

Not regulated.

15. REGULATORY INFORMATION

No specific requirements under CHIP Regulations.

16. OTHER INFORMATION

1) Compiles according to the CHIP Regulations 1994 (Directive 91/155/EEC).
2) N/A = not applicable. < = smaller or less than. CAS = Chemical Abstract Services.
3) Further H & S data is available from Palabora.
4) Vermiculite has been tested and proven not to be radioactive.

Indication of the changes made to the previous version of the SDS:

This Palabora crude vermiculite SDS has been revised in accordance with the requirements of Palabora.

Third party materials:

As far as materials not supplied by Palabora are used in conjunction with, or instead of Palabora material, it is the responsibility of the customer and/or user themselves to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of Palabora crude vermiculite in conjunction with materials from another supplier.

17. DISCLAIMER

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors or omissions or the consequences thereof. It is the user's obligation to determine the conditions of safe use of the material, all risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product.

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