



## **MATERIAL SAFETY DATA**

### **VICAFIL VERMICULITE**

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#### **COMPANY DETAILS**

Name : Cape Agricultural Products  
Address : P.O. Box 2145  
Somerset West  
7129  
Telephone no : (021) 852-5708  
Fax no : (011) 851-1360  
Email : info@capeag.co.za

#### **1. Product Identification**

Trade Name : Vicafil  
Chemical Name : Vermiculite  
CAS Number : 1318-00-9

#### **2. Composition**

Vermiculite is a hydrated laminar magnesium-aluminium-iron silicate, which resembles Mica in appearance.

Hazardous Components: Alpha - Cristobalite and Tridymite less than 0,1%

Alpha Quartz 0,01 to 0,05%

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### **3. Hazardous Identification**

Main hazard	:	Vermiculite is classified as a nuisance dust by the Occupational Health and Safety Act Regulations for Hazardous Chemical Substances, 1995. Vermiculite is also listed under Particulates Not Otherwise Classified (PNOC) by ACGIH).
Flammability	:	Non flammable, non-combustible.
Chemical hazard	:	None
Biological hazard	:	None
Reproductive hazard	:	None
Eye effects	:	Possible irritation from dust particles.
Health effects - skin absorption	:	None
Health effects – ingestion	:	None
Health effects – inhalation	:	Excessive inhalation over a long period may cause harmful irritation.
Carcinogenicity	:	Non carcinogenic
Mutagenicity	:	n/a
Neurotoxicity	:	n/a

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## **4. First Aid Measures**

- Product in eye : Wash out with clear water. In severe cases where particles are not removed by washing out, refer to a doctor.
- Product on skin : Not harmful
- Product ingested : Not harmful
- Product inhaled : In cases where excessive amounts have been inhaled, remove the affected individual from the dusty area and allow to breathe clean air. Drinking of water will assist in clearing remaining dust particles from the mouth and throat. (The wearing of a paper dust mask in dusty area is recommended to prevent discomfort).

## **5. Fire Fighting Measures**

Vermiculite is a fully oxidised, non-flammable mineral. It is non-combustible and non flammable and does not present any fire hazard.

## **6. Accidental Release Measures**

- Personal Precautions: Wear eye protection and paper dust masks in windy conditions.
- Environmental Precautions: Vermiculite is inert and does not present any hazard to the environment.
- Spill Procedure : Dampen with water and sweep up.

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7. **Handling and storage**

Loading/Unloading precautions: Avoid damage to packaging and follow good housekeeping procedures. No other special precautions required.

Handling and storage precautions: As above

8. **Exposure control / personal protection**

Occupational Exposure Limits : TWA 10mg/m<sup>3</sup> (total dust)  
: TWA 3mg/m<sup>3</sup> (respirable dust).

Engineering control measures : Dust extraction equipment can be used to prevent excessively dusty conditions and to maintain dust level below exposure limits.

Personal protection – respiratory : Type FF1 paper dust mask, SABS approved, or equivalent.

Personal protection – hand : Not required

Personal protection - eye : SABS approved eye protection.

Personal protection – skin : Not required

Other protection : None

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## 9. Physical and Chemical Properties

Appearance	:	Golden brown accordion shaped granule.
Odour	:	None
Boiling point	:	n/a
Melting point	:	>1350°C
Flash Point	:	Vermiculite is a fully oxidised non-flammable material.
Flammability	:	Non combustible and non-flammable.
Explosive Properties	:	n/a
Oxidising Properties	:	n/a
Vapour pressure	:	n/a
Specific Gravity	:	2,5
Specific Heat	:	0.27-0.41 kcal/kgK
Thermal Conductivity	:	0.062-0.065 W/m°C
pH	:	8.0-9.5
Solubility – water	:	Less than 1%
Water Absorption	:	20-50% (by volume)
Moisture Loss @ 110°C	:	4-10%

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**Typical Chemical Analysis:**

	Mass%
Silicon Oxide	35-41
Magnesium Oxide	21.5-25.5
Aluminium Oxide	6.5-10.0
Iron Oxide	6.0-9.5
Potassium Oxide	3-6
Calcium Oxide	2-6
Carbon Dioxide	0.6-2.5
Titanium Oxide	0.6-1.4
Phosphorus Pentoxide	0.2-2.0
Chromic Oxide	0.01-0.1
Fluoride	0.2-0.08
Chlorine	0.0-0.5

**10. Stability and Reactivity**

Conditions to avoid	:	Vermiculite is a stable, inert material.
Incompatible materials	:	None.
Hazardous decomposition products	:	None

**11. Toxicological Information**

Vermiculite is a non-toxic product.

**12. Ecological Information**

Vermiculite is a naturally occurring mineral, which is not harmful to fauna and flora. Vermiculite is not biodegradable, but as a stable, inert, non-toxic product, does not pose any threat to the environment.

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### 13. Disposal Considerations

Disposal Methods : Dispose in accordance with local authority's requirements and regulations. No special treatment required.

Disposal of Packaging : The standard polypropylene packaging used for Vicafil Vermiculite products can either be disposed of as above, or recycled.

### 14. Transport Information

Vicafil Vermiculite is transported locally by road or rail and due to its non-hazardous classification does not require any special transport precautions.

### 15. Regulatory Information

Occupational Health and Safety Act No. 85 of 1993  
Hazardous Chemical Substances Guideline No. 36 - Dusts.  
Personal exposure to be kept within the limits detailed in Section 8 above.

### 16. Other Information

Bibliography: Material Safety Data Sheet: Palabora Mining Company (14-10-1999)  
Material Safety Data Sheet-Vermiculite: The Schundler Company (05-10-1998)

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## **Exclusion of Liability**

The information contained in this document is based on current knowledge and experience at the date of publication. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product properties.