

**1. PRODUCT INFORMATION**

CHEMICAL NAME: Exfoliated Vermiculite  
 CAS NUMBER: 1318-00-9  
 CHEMICAL FAMILY: Hydro-phlogopite  
 CHEMICAL FORMULA:  $(Mg\ Fe...Fe...)_3 [(SiAl)_4O_{10}] [OH]_2 \cdot 4H_2O$

---

**2. COMPOSITIONS AND INFORMATION ON INGREDIENTS**

Name	% By Weight	CAS #	Toxicological Data
SiO <sub>2</sub>	41.20%	Not applicable	Not applicable
Al <sub>2</sub> O <sub>3</sub>	12.68%	Not applicable	Not applicable
Fe <sub>2</sub> O <sub>3</sub>	4.06%	Not applicable	Not applicable
FeO	1.54%	Not applicable	Not applicable
CaO	0.96%	Not applicable	Not applicable
MgO	24.22%	Not applicable	Not applicable
TiO <sub>2</sub>	1.33%	Not applicable	Not applicable
K <sub>2</sub> O	5.97%	Not applicable	Not applicable
P <sub>2</sub> O <sub>5</sub>	0.06%	Not applicable	Not applicable
H <sub>2</sub> O	3.00%	Not applicable	Not applicable
Na <sub>2</sub> O	1.60%	Not applicable	Not applicable
MnO	0.043%	Not applicable	Not applicable
TiFeO	5.71%	Not applicable	Not applicable
EVAPORATION	6.71%	Not applicable	Not applicable

NO ASBESTOS FIBERS WERE DETECTED IN SAMPLES BY POLARIZED LIGHT MICROSCOPY.

---

**3. SUMMARY OF HAZARDS**

**Potential Acute Health Effects:** No specific information is available in our database regarding the other effects of this material for humans.

**Potential Chronic Health Effects:**

There is no known effect from chronic exposure to this product. Repeated or prolonged exposure is not known to aggravate medical condition.

<b>CARCINOGENIC EFFECTS:</b>	Not available
<b>MUTAGENIC EFFECTS:</b>	Not available
<b>TERATOGENIC EFFECTS:</b>	Not available
<b>TOXICITY OF THE PRODUCT TO THE REPRODUCTIVE SYSTEM:</b>	Not available

---

**4. CHEMICAL AND PHYSICAL PROPERTIES**

<b>MELTING POINT:</b>	1320-1350 C	<b>VAPOR PRESSURE:</b>	Not applicable
<b>% VOLATILE BY VOLUME:</b>	Not applicable	<b>VAPOR DENSITY:</b>	Not applicable
<b>SOL. IN WATER:</b>	Insoluble	<b>SPECIFIC GRAVITY:</b>	0.7-1.1Kg/ml (H <sub>2</sub> O=1)
<b>PH (1% sol'n/water):</b>	6~7	<b>EVAPORATION RATE:</b>	6.71%
<b>APPEARANCE:</b>	Golden Dark Yellow Flake	<b>ODOR:</b>	None
<b>HEAT CONDUCTIVITY INHERENT WATER</b>	0.045-0.06Kc/m >5%	<b>TENSILE STRENGTH ANTIBIOTIC</b>	1000-1500Kg/cubic cm Good

---

**5. HEALTH EFFECTS****SKIN:**

Repeated contact may cause mechanical irritation and drying of skin.

**EYES:**

Eye contact may cause mechanical irritation and dust could damage eye surfaces.

**INHALATION:**

Repeated exposure to respirable dust above the TLV can result in reduced lung function, reduced work capacity and increased susceptibility to other lung diseases.

**INGESTION:**

None known or anticipated.

**TARGET ORGAN:**

Respiratory System.

---

**6. FIRST AID PROCEDURES****EYE CONTACT:**

Do not rub eyes. Flush with water for 15 minutes. Seek medical attention.

**SKIN CONTACT:**

Wash effected areas with soap and water. If irritation persists, seek medical attention.

**INHALATION:**

If conditions should develop that require first aid, remove victim to fresh air. If necessary, begin artificial respiration or CPR by a trained person. Seek medical attention.

**INGESTION:**

There has been no known case of ore ingestion.

**7. EXPOSURE CONTROL & PERSONAL PROTECTION****GLOVES:**

Rubber, leather or fabric to prevent mechanical irritation through friction. Be sure insides of gloves do not become contaminated with dust.

**VENTILATION:**

Local or general ventilation sufficient to maintain exposure below PEL.

**EYES:**

Wear protective glasses or goggles.

**RESPIRATOR:**

Approved air purifying or air supplied dust respirator. Refer to ANSI Z88.2 -1969 and 29 CFR 1910.134 if necessary to choose approved respirator.

---

**8. FIRE AND EXPLOSION HAZARD DATA**

LEL:	Not applicable
UEL:	Not applicable
FLAMMABLE LIMITS:	Not applicable
FLASH POINTS:	Not applicable
PRODUCTS OF COMBUSTION:	Not applicable
EXTINGUISHING MEDIA:	Dry chemical, carbon dioxide, water spray or foam.
SPECIAL FIRE-FIGHTING PROCEDURES:	Use procedures necessary to control the type of fires occurring in the area.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Negligible fire hazard when exposed to heat or flame.

**9. STABILITY AND REACTIVITY DATA**

STABILITY: This product is stable.

INCOMPATIBILITY: No compatibility? known.

HAZARDOUS POLYMERIZATION:  
Will not undergo hazardous polymerization.

HAZARDOUS DECOMPOSITION PRODUCTS OTHER THAN BY FIRE OR EXPLOSION:  
None known.

## 10. SPILLS, LEAK, AND DISPOSAL INFORMATION

SPILL AND LEAK:  
Avoid inhalation of dust. Sweep up and transfer material to secure container.

DISPOSAL:  
Dispose of in accordance with local and federal environmental protection laws.

## 11. SHIPPING INFORMATION

Not regulated for Transportation Purposes.

## 12. ADDITIONAL INFORMATION

CALIFORNIA PROPOSITION 65 WARNINGS:

WARNING: This product contains a chemical known to the State of California to cause cancer. Chemical ingredient(s) requiring this warning:  
NONE

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Chemical ingredient(s) requiring this warning: NONE

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	E

HMIS (USA)

For additional non-emergency MSDS information, contact or write:

Micronized Ultra Tech Vermiculite, Inc.  
Dr. Weissenburg  
Tel: (510) 234-0121 Fax: (510) 234-0129  
Dawson Shi  
Tel: (626)203-5917

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or results to be obtained from the use thereof. Micronized Ultra Tech Vermiculite assumes no responsibility for personal injury or property damage caused by the material. Users assume all risks associated with the use of the material.