

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identifiers

Product Name: Vermiculite Ore Concentrate and Thermally Expanded Vermiculite
Product Number: Varies. All Untreated Grades of Vermiculite Ore Concentrate and Expanded Products
Trade Name: Viagrow Vermiculite
General Use: Multi-Functional Industrial/Commercial Mineral
Chemical Family: Planer Hydrous Phyllosilicate
CAS-No: 1318-00-9
EC-No: 310-127-6

1.2 Relevant Identified Uses

Identified Uses: For Further Expansion, as Fire Retardant and Insulant, as Padding or Absorbent, as a Component in Construction, Horticulture or Other Industrial/Commercial Applications

1.3 Supplier Details

Company: Hydro Generation inc
4051 Southmeadow Pkwy W, Ste C
Atlanta, GA 30349
Telephone: 404-349-6954

1.4 Emergency Telephone Number

Emergency Phone #: (404) 349-6954

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classified Components

No Classified Components

GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS)

Not Classified

2.2 GHS Label Elements, Including Precautionary Statements

Pictogram: Not applicable
Signal word: No signal word
Hazard statement(s): No known health effects or hazards
Precautionary statement(s): Not applicable

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms: Jefferisite, Hydromica
Class: Micaceous Hydrated Silicate Minerals

3.2 Ingredients

Chemical Name, Empirical Formula	CAS Number	EINECS Number	Percentage (%)
Magnesium Aluminum Iron Silicate $Mg_{1.8}Fe^{2+}_{0.9}Al_{4.3}SiO_{10}(OH)_2 \cdot 4(H_2O)$	1318-00-9	310-127-6	99% WT
Varies (Naturally Occurring)	-----	-----	<1% WT

3.3 Hazardous Components

These products may contain trace levels of naturally occurring crystalline silica (Quartz-CAS # 14808-60-7). Internationally recognized test methods have shown that this component ingredient is not biologically significant and therefore, incapable of causing harm under normal conditions of use or as a result of extreme upset.

3.4 Additional Information

Per Rietveld Enhanced XRD analysis (used to determine mixture and relative component content), naturally occurring trace level components in these products are insignificant and environmentally unavailable. Therefore, they have been excluded from further classification as either a health or environmental hazard.

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention

Skin Contact: Use good hygiene practices including washing of skin with soap and water. If irritation occurs, seek medical attention

Eye Contact: In case of eye contact, flush eyes with water. If necessary, seek medical attention

Ingestion: If a large amount is swallowed, get medical attention

4.2 Most Important Symptoms/Effects, Acute and Delayed

None; generated dust may result in irritation.

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Seek medical care if large quantities have been ingested or inhaled.

5. FIREFIGHTING MEASURES

5.1 Extinguishing Media

These products are not flammable. Use fire extinguishing media appropriate for surrounding materials

5.2 Special Hazards Arising from the Substance or Mixture

Hazardous combustion products do not occur

5.3 Advice for Firefighters

No specific fire-fighting procedures are needed

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Follow precautions for safe handling as described in this Safety Data Sheet

6.2 Environmental Precautions

Products are naturally occurring nonhazardous minerals. Handle wastes in accordance with local requirements.

6.3 Methods and Material for Containment and Cleaning Up

Avoid excessive and ongoing dust formation.

6.4 Reference to Other Sections

For personal protection see section 8. For waste disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Wear personal protective equipment in accordance with those recommendations provided in Section 8. Use good hygiene practices and wash hands and face before eating, drinking or conducting personal hygiene. Reduce contamination from clothing and protective equipment before entering eating areas.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Store in accordance with local regulations

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limits:

OSHA (PEL): 15 mg/m³ (TWA, total particulates, not otherwise regulated)
5 mg/m³ (TWA, respirable particulates, not otherwise regulated)

ACGIH (TLV): 10 mg/m³ (TWA, inhalable particulates, not otherwise regulated)
3 mg/m³ (TWA, respirable particulates, not otherwise regulated)

Engineering Controls: Observe occupational exposure limits and provide local ventilation as necessary to control dust inhalation.

Respiratory Protection: No specific recommendation made, but respiratory protection must be used where general dust levels exceed occupational exposure limits. If needed, wear appropriate protection in high dust conditions and affected work areas.

Eye/Face Protection: Wear eye protection where there is danger of eye contact. Provide eyewash station.

Skin and Body Protection: No specific protection noted, but gloves and coveralls may be used. Wash hands at the end of each work shift and before eating, smoking and personal hygiene.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical state:	Solid Platelets, Multilayer Book-Like Granules
Color:	Dark Greenish Brown to Bronze and Golden Brown
Melting point:	>1250°C / 2280°F
Odor:	Odorless
pH:	Neutral
Specific Gravity:	2.4 – 2.7 (0.06 - 0.13 when exfoliated)
Granulometry:	Varies (<i>generally in the range 0.5mm – 15mm</i>)

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal temperature conditions.

10.2 Chemical Stability

These products are stable.

10.3 Possibility of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to Avoid

None relative to designed use. Avoid contact with hydrofluoric acid.

10.5 Incompatible Materials

Hydrofluoric Acid

10.6 Hazardous Decomposition Products

Hazardous decomposition products should not be produced under normal conditions of storage and use. In the presence of hydrofluoric acid, silicon tetrafluoride gas may form.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Other health effects: These substances have shown no evidence of adverse health effects under normal conditions of use or in extreme upset environments.

Acute Toxicity

Acute toxicity (Oral LD50): Not relevant

Acute toxicity (Dermal LD50): Not relevant

Acute toxicity (Inhalation LC50): Not relevant

Inhalation: Dust in high concentrations may irritate the respiratory system

Ingestion: May cause discomfort if swallowed

Skin Contact: Powder may irritate skin

Eye Contact: Particles in the eyes may cause irritation

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Not regarded as dangerous for the environment

12.2 Acute Fish Toxicity

Not considered toxic to fish

12.3 Persistence and Degradability

These products are not readily biodegradable

12.4 Bioaccumulative Potential

These products are not bioaccumulating

12.5 Mobility in Soil

Not relevant, due to the form of the products

12.6 Results of PBT and vPvB Assessment

These products do not contain any PBT or vPvB substances

12.7 Other Adverse Effects

None. Vermiculite products represent a heat processed inorganic, inert material that does not constitute any known health hazards and is non-combustible.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Product

Dispose of waste and residues in accordance with local authority requirements. Vermiculite products are not considered a hazardous waste under RCRA (40 CFR Part 261).

Contaminated Packaging

Dispose of as unused product

14. TRANSPORT INFORMATION

Road transport notes: Not classified

Rail transport notes: Not classified

Sea transport notes: Not classified

Air transport notes: Not classified

14.1 UN Number

These products are not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID)

14.2 UN Proper Shipping Name

Not classified for transportation

14.3 Transport and Hazard Class(s)

Not classified for transportation

14.4 Packing Group

Not classified for transportation

14.5 Environmental Hazards

Not an environmentally hazardous substance / marine pollutant

14.6 Special Precautions for User

Not classified for transportation

14.7 Transport in Bulk According to Annex II of MARPOL73/78 and the IBC Code
Not applicable

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA 313 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313

SARA 311/312 Hazards

Regulated per OSHA HAZCOM Standards

California Proposition 65 Components

These products do not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Other State Right to Know Components

No chemicals in this material are subject to state reporting requirements

16. OTHER INFORMATION

Full Text of H-Statements Referred to Under Sections 2 and 3.

Not applicable

HMIS Rating

Health hazard: 0
Chronic Health Hazard: 0
Flammability: 0
Physical Hazard 0

NFPA Rating

Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

Hazard Rating	
0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

Further Information

License granted to make unlimited paper copies for internal use only. The above information is believed to be correct as of the date of preparation and does not purport to be all inclusive or account for naturally occurring variation in the composition of raw ores. It therefore, represents no guarantee of the properties associated with these products.

The information in this document should be used only as a guide in applying the appropriate safety precautions and professional consultation is advised. Should naturally occurring variation cause significant change in product composition, this information will undergo revision as appropriate. Hydro Generation inc. and its Affiliates shall not be held liable for any damage resulting from the end user's handling or contact with these products.