

MATERIAL SAFETY DATA SHEET

Identity:
Semectite Clay (CAS #12199-37-0)

Section I

Manufacturer's Name IMV Nevada	Emergency Telephone Number 800-243-0513 775-372-5341
Address: HC 70 Box 549 498 E. Invite Rd. Amargosa Valley, Nevada 89020	Telephone Number for Information 775-372-5341
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SECTION II –HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components: Respirable dust may contain Silica, Crystalline Quartz (CAS #14808-60-7)

Specific Chemical Identity:

Bentonite: $(Si_8(Al_{3.34}Mg_{0.66}O_{20}((OH)_4))$	CAS #1302-78-9
Saponite: $(Si_{7.34}(Al_{0.66}Mg_6O_{20}((OH)_4))$	CAS #1319-41-1
Hectorite: $(Si_8(Mg_{5.34}Li_{0.66})O_{20}(OH)_4)$	CAS #12173-47-6

Common Names: Bentonite, Saponite, Hectorite, Montmorillonite, Smectite, Clay--a natural mineral extracted from the earth (see trade names, page 5)

OSHA PEL: Classified as a nuisance dust when less than 1% crystalline silica is present, PEL = 5.00 mg/M³ (respirable)

If greater than 1% crystalline silica, then exposures shall not exceed an 8 hr. time weighted average limit as stated in 29 CFR 1910.1000 Table Z-1-A for air contaminants, specifically:

Silica, Crystalline Quartz (respirable 0.1 mg/M³)

ACGIH TLV: Classified as a nuisance dust when less than 1% crystalline silica, TLV-TWA = 10 mg/M³ (total dust), 5 mg/M³ (Respirable)

If greater than 1% crystalline silica, the TLV-TWA = 0.1mg/M³ (respirable crystalline quartz). See Threshold Limit Value and Biological Exposure Indices for 1989-1990, American Conference of Governmental Industrial Hygienists.

Other Limits Recommended: National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration= 0.05 mg/M³ (respirable crystalline quartz) as determined by a full-shift sample up to 10-hour working day, 40

hour work week. See NIOSH Criteria for Recommended Standard Occupational Exposure to Crystalline Silica.

SECTION III –PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: More than 1000°F Specific Gravity (H₂O=1) 1.01-2.4

Vapor Pressure (mm Hg.): None Melting Point: None

Vapor Density (AIR=1) None Evaporation Rate: None

Solubility in Water: Insoluble in water

Appearance and Odor: White, light gray, tan or reddish tan, granular or powder. Earthy odor when wet.

SECTION IV –FIRE AND EXPLOSION HAZARD DATA

Flash Point (method used): non-flammable

Flammable Limits: None LEL: None UEL: None

Extinguishing Media: None Required

Special Fire Fighting Procedures: None

Unusual Fire and Explosion Hazards: None

SECTION V -- REACTIVITY DATA

Stability: Unstable () Stable (X)

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: None

Hazardous Polymerization: Will Not Occur

SECTION VI – HEALTH HAZARD DATA

Route(s) of Entry: Inhalation? Yes Skin? No Ingestion? No

Health Hazards (Acute and Chronic)

May be harmful if inhaled in sufficient quantities. Prolonged exposure to Semectite Clay dust may cause a relatively benign lung disease, though there is a risk of massive fibrosis. Repeated and prolonged exposure to respirable crystalline quartz which may be contained in Semectite Clay dust may cause delayed (chronic) lung injury silicosis. Silicosis is a form of disabling pulmonary fibrosis which can be progressive and may lead to death. Acute, or rapidly developing silicosis has not been observed in Semectite Clay dust exposures.

Carcinogenicity: NTP? No IARC Monographs? Yes OSHA Regulated? No

Semectite Clay, like other naturally occurring minerals, may contain some free silica and crystalline silica, by itself, has been classified by IARC as a Class 2A carcinogen. IARC in Vol. 42 (1987) reports there is sufficient evidence of the carcinogenicity of crystalline silica to experimental animals, and there is limited evidence of carcinogenicity of crystalline silica to humans.

Signs and Symptoms of Exposure: undue breathlessness, wheezing, cough and sputum products.

SECTION VI- CONTINUED

Medical Conditions Generally Aggravated by Exposure:

Pulmonary function may be reduced by inhalation of respirable crystalline silica that may be in Semectite Clay dust. Also, lung scarring produced by such inhalation may lead to progressive massive fibrosis of the lung which may aggravate other pulmonary conditions and diseases and which increases the susceptibility to pulmonary tuberculosis. Progressive massive fibrosis may be accompanied by right heart enlargement, heart failure and pulmonary failure. Smoking aggravates the effects of exposure.

Emergency and First Aid Procedures: For dust in eyes, wash immediately with water. If irritation persists, seek medical attention. For gross inhalation, remove person immediately to fresh air and give artificial respiration as needed, seek medical attention as needed.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in Case Material is Released or Spilled:

Spills: Use dustless methods (vacuum) and place into closable container for disposal, or flush with water. Do not dry sweep. Care should be taken to avoid high aerosol dust concentrations. Wear protective equipment specified below. Spilled material may become very slippery when wet with water, grease, oil, gasoline, or solvents.

Waste Disposal Method: Dispose in accordance with Federal, State and Local regulations.

Precautions to Be Taken in Handling and Storing: Avoid breakage of bagged material or spills of bulk material. See control measures in Section VIII.

Other Precautions: Use dustless systems for handling, storage, and clean up so that airborne dust does not exceed the PEL. Use adequate ventilation and dust collection. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing which has become dusty. See also control measures in Section VIII.

See OSHA Hazard Communication Rule 29 CFR Sections 1910.1200, 1915.99, 1917.28, 1918.90, 1926.59 and 1928.21 and state and local worker or community "right to know" laws and regulations. We recommend that smoking be prohibited in all areas where respirators must be used. **WARN YOUR EMPLOYEES (AND YOUR CUSTOMERS-USERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE HAZARDS AND OSHA PRECAUTIONS TO BE USED. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT THE OSHA PRECAUTIONS.**

See also American Society for Testing and Materials (ASTM) "Standard Practice for Health Requirements Relating to Occupational Exposure to Quartz Dust."

SECTION VIII – CONTROL MEASURES

Respiratory protection (Specify type)

The following chart specifies the types of respirators which may provide protection for respirable crystalline silica that may be contained in Sepiolite Clay dust.

RESPIRATORY PROTECTION FOR CRYSTALLINE SILICA

Condition Particulate Concentration	MINIMUM RESPIRATORY PROTECTION*
Up to 5 x PEL	Any dust respirator
Up to 10 x PEL	Any dust respirator, except single use or quarter-mask respirator. Any fume respirator of high efficiency particulate filter respirator. Any supplied-air respirator. Any self-contained breathing apparatus.
Up to 50 x PEL	Any high efficiency particulate filter respirator with a full face-piece. Any supplied-air respirator with a full face-piece, helmet or hood. Any self-contained breathing apparatus with a full face-piece.
Up to 500 x PEL	A powered air-purifying respirator with a high efficiency particulate filter. A Type C supplied-air respirator operated in pressure demand or other positive pressure or continuous flow mode.
Greater than 550 x PEL or entry and escape from unknown concentrations	Self-contained breathing apparatus with a full face-piece operated in pressure-demand or other positive pressure mode. A combination respirator which includes a Type C supplied-air respirator with a full face-piece operated in pressure demand or other positive pressure continuous-flow mode and auxiliary self-contained breathing apparatus operated in pressure demand or other positive pressure mode.

***Only NIOSH-approved or MSHA-approved equipment should be used. (See 29 CFR 1910.134).**

Ventilation:

Local Exhaust: Use sufficient local exhaust to reduce the level of dust to the PEL. See ACGGIH "Industrial Ventilation, A manual of Recommended Practice," the latest edition.

Mechanical: See "Other Precautions" under Section VII

Special: See "Other Precautions" under Section VII

Other: See "Other Precautions" under Section VII

Protective gloves: Optional

Eye protection: Wear protective shield (safety glasses) when exposed to dust particles

Other Protective Clothing & Equipment: Optional

Work/Hygienic Practices: Avoid creating and breathing dust. See "Other Precautions" under Section VII

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful health effects which may be caused by purchase, resale, and use of exposure to our Sepiolite Clay. Customers-users or Sepiolite Clay must comply with all applicable health and safety laws, regulations and orders.

TRADE NAMES:

GEL

GELITE

IGB

ULTRA-DRY IGB

IGBA

GEL NOODLES

200 MESH SAPONITE

MINE-RUN SAPONITE

IMVITE 1016