

# MATERIAL SAFETY DATA SHEET

## SUBSTANCE: VERMICULITE

<b>SUPPLIER DETAILS</b>	
Supplier Name: PT. IPI SUNIJAYA	Emergency Telephone Number: +62 21 5444 291
Address: Jl. Lingkar Luar Barat No.23E Cengkareng – Jakarta Barat 11750 – Indonesia	Telex / E-Mail Address: <a href="mailto:info@ipijaya.com">info@ipijaya.com</a> <a href="mailto:massidik@ipijaya.com">massidik@ipijaya.com</a>
Telephone Number: +62 21 5444291	URL / WebPages: <a href="http://www.ipijaya.com/">http://www.ipijaya.com/</a>
Fax Number: +62 21 5437 3348	Last Revision Date: 12/20/2005 2:08:53 PM
<b>1. PRODUCT IDENTIFICATION</b>	
Chemical Names and Synonyms:	UN Number:
CAS Number:	NIOSH Number:
<b>2. COMPOSITION</b>	
<p>Vermiculite is the mineralogical name given to hydrated laminar magnesium-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.)</p> <p>Vermiculite CAS No -1318-00-9 ACGIH TLV(T) -10 mg/m<sup>3</sup> ACGIH TLV (R) - 3 mg/m<sup>3</sup>, Other - 30 mppcf Alpha-Cristobalite and Tridymite : Less than 0.1% Alpha quartz : 0.01 TO 0.05%</p>	
<b>3. HAZARDOUS IDENTIFICATION</b>	
<p>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</p>	
<b>4. FIRST AID MEASURES</b>	
<p>Inhaled: Induce coughing. Contact with skin: Harmless. Contact with eyes: Flush with plenty of running water for 10 minutes. See medical doctor if particles are still lodged in eye.</p>	

<b>5. FIRE FIGHTING MEASURES</b>
Flash point: Vermiculite is an inorganic, fully oxidized, non-flammable and non-combustible material.
<b>6. ACCIDENTAL RELEASE MEASURES</b>
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.
<b>7. HANDLING AND STORAGE</b>
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.
<b>8. EXPOSURE CONTROLS / PERSONAL PROTECTION</b>
Ventilation and engineering controls: maintain dust level below TLV. Respiratory protection (type): masks suitable for nuisance dust. Eye protection (type): protective goggles or similar.
<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>
Golden brown alkaline flakes. Insoluble in water. 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/cm <sup>3</sup>
<b>10. STABILITY AND REACTIVITY</b>
Stable.
<b>11. TOXICOLOGICAL INFORMATION</b>
Additional toxicology :- Salmonella typhimurium mutagenicity - Not mutagenic at extract concentrations below 2 000 g/l. Frog (Xenopus laevis) embryo teratogenicity:- Not teratogenic at extract concentrations below 1 000 g/l.
<b>12. ECOLOGICAL INFORMATION</b>
Evaluated at 50 g/l extract: -Daphnia pulex lethality:48 h LC0 > 50 mg/l, 48 h LC50 > 50 mg/l. -Algal (Selenastrum capricornutum) growth inhibition:72 h EC0 > 50 mg/l, EC50 > 50 mg/l. -Bacterial (Pseudomonas putida) growth inhibition:6 h EC0 > 50 mg/l, 6 h EC50 > 50 mg/l. -Frog (Xenopus laevis) embryo lethality:48 h EC0 > 50 mg/l, 48 h EC50 > 50 mg/l.
<b>13. DISPOSAL CONSIDERATIONS</b>
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.

<b>14. TRANSPORT INFORMATION</b>
----------------------------------

Not regulated.
----------------

<b>15. REGULATORY INFORMATION</b>
-----------------------------------

No specific requirements.
---------------------------

<b>16. OTHER INFORMATION</b>
------------------------------

<b>DISCLAIMER</b>
-------------------

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.
---