

# MATERIAL SAFETY DATA SHEET

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## SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- a. **Product name: EndoFine® Vert Nutrient Solubilizing Inoculant**
- b. **Synonyms:** Microbial agent, beneficial fungi, endophyte, clonostachys rosea
- c. **Name of supplier and address:** See above
- d. **Product use:** Supplements natural microflora in plants when diluted with water
- e. **Date of MSDS preparation:** February 2008

## SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

- a. **Identity of active ingredient:** Clonostachys rosea (naturally occurring inoculant microflora)
- b. **Ingredients present, which are on the OSHA Hazard List:** Not Applicable
- c. **Ingredients with unknown toxicological properties:** None
- d. **Ingredients the supplier believes may be harmful:** None
- e. **Generic chemical identity and registry number for trade secret ingredients registered under the Hazardous Materials Information Review Commission:** None
- f. **Ingredient concentration in units of wt./wt., vol./vol. or wt./vol. expressed as actual concentration:**  
Minimum is  $2 \times 10^8$  CFU's / gm
- g. **Exposure limits for ingredients:** None

## SECTION 3 HAZARDS IDENTIFICATION

### Potential Health Effects:

#### Relevant routes of exposure:

**EYE CONTACT:** Not an eye irritant

**SKIN CONTACT:** Very low risk

**INHALATION:** Very low risk. Avoid inhaling dust. Wear protective face protection during handling of powder.

**INGESTION:** Very low risk

**CHRONIC EFFECTS:** None known

## SECTION 4 FIRST AID MEASURES

**IF IN CONTACT: Get in touch with poison control officials, describe any symptoms, and follow the advice given.**

**EYES:** Flush with plenty of clean water.

**SKIN:** Wash affected area with plenty of water. Wash contaminated clothing before reuse.

**INHALATION:** Move to fresh air.

**INGESTION:** If victim is fully conscious, immediately administer a large amount of water to drink.

## SECTION 5 FIRE FIGHTING MEASURES

- a. **Flash point and method:** Not available, not combustible
- b. **Upper and lower flammable (explosive) limits in air (% by volume):** Not applicable
- c. **Auto ignition temperature:** Not applicable
- d. **Hazardous combustion products:** Not applicable
- e. **Conditions under which flammability could occur:** None
- f. **Extinguishing media:** Water
- g. **Sensitivity to explosion by mechanical impact:** None
- h. **Sensitivity to explosion by static discharge:** None

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Procedures for dealing with release or spill:

Clean up spills immediately with soap and water.

In case of a major spill: Isolate and barricade area and keep bystanders away. Sweep and wash area with soap and water.

For small spills: Sweep up and dispose of in garbage or compost.

## SECTION 7 HANDLING AND STORAGE

- a. **Handling practices:**  
Keep out of reach of children, unauthorized persons and animals. Avoid eye contact and prolonged skin contact. Avoid inhalation of mists. Wear protective clothing and, after work, remove protective equipment and wash hands before eating, smoking, drinking, or using the toilet. Clean up spilled material immediately and clean clothes, equipment and work area after use. Wear protective particle mask to avoid inhalation during handling of powder.
- b. **Appropriate storage practices/requirements:**  
Keep refrigerated. Store in original container only. Keep separate from other products to prevent cross contamination. Clean up any spilled material immediately.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- a. **Applicable control measures, including engineering controls:**  
Ensure work areas have ventilation. Develop written safety and inspection procedures.
- b. **Personal protective equipment for each exposure route:**
  - INHALATION:** Use an approved NIOSH respirator if ventilation is not adequate, particularly in hot nonventilated spaces.
  - EYES:** Wear safety glasses.
  - SKIN:** Avoid contact or wash after use.
- c. **Work place Exposure Guidelines:**  
Follow OSHA 29 CFR 1910.134 requirements whenever conditions warrant use of a respirator.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

- a. **Appearance:** Amber-colored powder
- b. **Odor:** Very slight pleasant odor
- c. **Physical state:** Fine powder
- d. **pH:** Not applicable
- e. **Vapour pressure and reference temperature:** None
- f. **Vapour density:** Not volatile
- g. **Boiling point:** Not applicable
- h. **Freezing/Melting point:** Do not freeze. Store at 2° to 5°C (36° to 42°F).
- i. **Density:** 0.4 gms/cc
- j. **Evaporation Rate:** Not applicable
- k. **Water/oil partition coefficient:** Not applicable
- l. **Odor threshold:** Not applicable – pleasant odor
- m. **Viscosity:** Not applicable

## SECTION 10 STABILITY AND REACTIVITY

- a. **Chemical stability:** Stable
- b. **Conditions to avoid:** Freezing or temperatures over 40°C (105°F)
- c. **Incompatibility with other materials:** Avoid application with conventional pesticides.
- d. **Hazardous decomposition products:** None
- e. **Hazardous polymerisation:** Will not occur

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on product:

- a. LD50 (Rat, Dermal >12,000 mg/kg Oral >12,000 mg/kg)  
LC50 Inhalation (Rat > 2,400 mg/kg/L)
- b. **Irritation data - eye/ rabbit:** Not an eye irritant. Talc in formulation may cause slight irritation.
- c. **Sensitization:** This product is not expected to cause sensitization.
- d. **Carcinogenicity** Not determined
- e. **Reproductive toxicity:** Not determined
- f. **Teratogenicity:** Not determined
- g. **Mutagenicity:** Not determined
- h. **Chronic exposure:** None
- i. **Other materials that show synergistic toxic effects together with the product:** None known

## SECTION 12 ECOLOGICAL INFORMATION

This inoculant is widely and commonly found in nature.

### SECTION 13 DISPOSAL CONSIDERATIONS

**Waste disposal information:**

Do not reuse containers. Rinse container thoroughly three times. Consult state/ provincial environment officials for advice on disposal of empty containers. All recovered material must be packaged, labeled, transported and disposed or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Rinsed containers may be recycled.

### SECTION 14 TRANSPORT INFORMATION

**Shipping information such as shipping classification:** Ship and store away from food, feed, cosmetics, and medical supplies.

### SECTION 15 REGULATORY INFORMATION

**TSCA Inventory status:** Not applicable

**SARA 311/312 Hazard categories:** Not applicable

**SARA 313 Toxic chemicals:** Not applicable

**SARA 302 Extremely hazardous substances:** Not applicable

**CERCLA Hazardous substances:** Not applicable

### SECTION 16 OTHER INFORMATION

**HMIS Ratings:** Health: 0 Flammability: 0 Reactivity: 0

**NFPA Ratings:** Health: 0 Flammability: 0 Reactivity: 0

The information contained herein is offered only as a guide to the handling of this specific product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. It is the user's responsibility to satisfy himself or herself as to the suitability and completeness of such information for his or her own particular use. No warranty of any kind is given or implied. Sylvan Bioproducts, Inc. will not be liable for any damages, losses, injuries or consequential damages, which may result from the use or reliance on any information contained herein. EndoFine is a registered trademark of Adjuvants Plus Inc., Kingsville, Ontario

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