

# OPTIMIZE PULSE IF

## MATERIAL SAFETY DATA SHEET

### SECTION 1 PRODUCT & COMPANY IDENTIFICATION

**Material Names:** Optimize Pulse IF

**Other Designations:** Lipo-chitooligosaccharide in a peat-based inoculant product containing live cultures of nitrogen-fixing *Rhizobium* bacteria

**Chemical Formula:** Mixture

**Manufacturer:** EMD Crop BioScience  
3101 W. Custer Ave., Milwaukee, WI 53209

**Emergency Telephone:** 414-462-7600  
Monday-Friday, 8:00 am - 4:30 pm CST

**After Hours:** Call CHEMTREC at 1-800-424-9300

### SECTION 2 INGREDIENT INFORMATION

Hazardous Ingredient:	CAS Number:	OSHA PEL:	ACGIH TLV:
crystalline quartz	14808-60-7	10 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>

(Small amounts of quartz are a naturally-occurring component of the carrier substrate)

Contains naturally-occurring, non-pathogenic *Rhizobium* bacteria on a carrier substrate of sedge peat. These are symbiotic nitrogen-fixing bacteria, to be applied as a seed treatment or in-furrow at seed planting, to specific legume crops (not a plant food product). See product label for specific crop information, application rates and methods. Not for food, feed or drug use.

### SECTION 3 HAZARDS IDENTIFICATION

**Emergency Overview:** There are no known health effects caused by the *Rhizobium* bacteria contained in this product.

**Primary Entry Routes:** Oral (swallowing), inhalation

**Acute Effects (Signs and Symptoms of Overexposure):**

- Eyes:** Dust may cause mechanical irritation of eye.
- Skin:** No known hazard.
- Inhalation:** Inhalation of large amounts of dust may cause discomfort.
- Ingestion:** No known hazard.

**Chronic Effects:** Chronic inhalation of quartz dust causes lung disease.

**Medical Conditions Aggravated by Exposure:** Respiratory disease.

**Target Organs:** Lungs

**Carcinogenicity:** Quartz is listed as a carcinogen by NTP and IARC.

**HMIS:** Health - 0, Flammability - 0, Reactivity - 0

### SECTION 4 FIRST AID MEASURES

**Eyes:** Flush eyes with water for at least 15 minutes.

**Skin:** Wash with soap and water.

**Inhalation:** Remove person to fresh air. Get medical attention if irritation persists.

**Ingestion:** No treatment necessary.

### SECTION 5 FIRE FIGHTING MEASURES

**Flash Point:** None

**Autoignition Temp.:** Not determined

**Explosive Limits:** LEL: Not applicable  
UEL: Not applicable



**Extinguishing Media:** Use media suitable for the surrounding fire

**Unusual Fire or Explosion Hazards:** None known

**Fire Fighting Instructions:** No special requirements.

### SECTION 6 ACCIDENTAL RELEASE MEASURES

**Large Spill/Leak Procedures:** Contain spill and recover for use or disposal.

**Small Spills:** Spilled liquid may cause slippery residue on hard floors. Flush spill area with water to wash away any slippery residue.

### SECTION 7 STORAGE AND HANDLING

**Storage Requirements:** Store in original container in a cool, dry place. Use before expiration date printed on package.

**Handling Precautions:** No special handling requirements. Follow normal hygiene and housekeeping standards for agricultural products.

### SECTION 8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

**Ventilation:** Special ventilation is not required for the normal handling and use of this product when following the label instructions.

**Protective Clothing/Equipment:** Dust-proof goggles are recommended when working in dusty conditions.

**Respirator:** Wear a dust mask when working in dusty conditions.

**Contaminated Equipment:** Clean application equipment with detergent and water after use.

**Comments:** Practice general personal hygiene after using this product. After handling any chemical or biological product, wash arms, hands and face with soap and water before eating, drinking or smoking.

### SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b> Powder or granules	<b>Water Solubility:</b> Insoluble
<b>Color:</b> Dark brown	<b>% Volatile (Volume):</b> Not determined
<b>Odor:</b> Earthy	<b>Specific Gravity:</b> 0.6
<b>Melting Point:</b> Not determined	<b>Vapor Pressure:</b> Not determined
<b>Boiling Point:</b> Not determined	<b>Vapor Density:</b> Not determined
<b>Freezing Point:</b> Not determined	<b>pH:</b> 6.5 to 7.3

### SECTION 10 STABILITY AND REACTIVITY

**Stability:** Stable

**Conditions to Avoid:** None

**Hazardous Polymerization:** Will not occur

**Chemical Incompatibilities:** Some seed-applied chemicals, including fungicides, may be harmful to the bacteria in this product.. See product label for further information on the use of fungicides or other chemicals in conjunction with seed treatment. Avoid contact with strong fertilizers or strong oxidizers.

**Hazardous Products of Decomposition:** Oxides of carbon

### SECTION 11 TOXICOLOGICAL INFORMATION

<b>Eye Effects/Eye Irritation:</b>	Non-irritating
<b>Acute Oral Effects:</b>	LD <sub>50</sub> (orl-rat): >5000 mg/kg
<b>Acute Inhalation Effects:</b>	No data available
<b>Acute Dermal Effects:</b>	LD <sub>50</sub> (dml-rbt): >2000 mg/kg
<b>Skin Irritation:</b>	Non-irritating
<b>Skin Sensitization:</b>	Not a skin sensitizer

### SECTION 12 ECOLOGICAL INFORMATION

This product contains non-pathogenic bacteria strains that occur naturally in soil, and is biodegradable.

### SECTION 13 DISPOSAL CONSIDERATIONS

**Disposal:** Small amounts of product which cannot be used according to label instructions may be disposed of in a landfill.

**RCRA Waste Status:** This product is not regulated as a hazardous waste. State and local regulation may affect the disposal of this product. Consult your state, local or provincial environmental agency for disposal of waste other than by use according to label instructions.

### SECTION 14 TRANSPORT INFORMATION

**Transportation Data:** This product is not regulated as a hazardous material for all modes of transportation within the U.S. and Canada.

**Hazard Class:** Not applicable **ID No.:** Not applicable

### SECTION 15 REGULATORY INFORMATION

**TSCA:** All components of this product are listed on the TSCA inventory.

**SARA Section 313:** Contains no reportable components.

**OSHA Hazard Classification:** Non-hazardous

**Proposition 65:** Contains no components subject to warning requirements.

**WHMIS / Controlled Products Regulations:** This product has been classified in accordance with the hazard criteria of the CPR and this MSDS contains all of the information required by the CPR.

### SECTION 16 OTHER INFORMATION

**Prepared by:** D. Joers **Date:** 11 November 2006

Information presented on this Material Safety Data Sheet is believed to be accurate at the time of publication. No warranty, expressed or implied, is made with regard to this information. This information may not be adequate for every application, and the user must determine the suitability of this information due to the manner/conditions of use, storage or local regulations.