

OPTIMIZE® 400
MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT & COMPANY IDENTIFICATION

Material Names: Optimize 400
Designations: 2×10^{-7} Lipo-chitooligosaccharide in an aqueous carrier with a separate aqueous additive.
Chemical Formula: Mixture
Manufacturer: EMD Crop BioScience
3101 W. Custer Ave., Milwaukee, WI 53209
Emergency Telephone: Phone: 414-462-7600
Monday – Friday, 8:00am-4:30pm CST
After Hours: Call CHEMTREC at 1-800-424-9300

SECTION 2 INGREDIENT INFORMATION

Ingredient Name	CAS #	Typical Wt. %
The product contains no hazardous ingredients. The product contains naturally-occurring, non-pathogenic Rhizobia bacteria. These are symbiotic nitrogen-fixing bacteria, to be applied as a seed treatment 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.
Primary Entry Routes: Oral (swallowing)
Acute Effects (Signs and Symptoms of Overexposure):
Eyes: Liquid may cause minor eye irritation.
Skin: No known hazard.
Inhalation: No known hazard.
Ingestion: No known hazard.
Chronic Effects: No known hazard.
Medical Conditions Aggravated by Exposure: No known hazard.
Target Organs: None
Carcinogenicity: Contains no known or suspected carcinogens.
HMIS: Health – 0, Flammability – 0, Reactivity – 0

SECTION 4 FIRST AID MEASURES

Eyes: Flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.
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
Auto-ignition 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 & HANDLING

Storage Requirements: Store in original container in a cool, dry place. Avoid repeated freeze/thaw cycles. Shake well before use. Open package only when ready to use. 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: No special requirements.
Respirator: None required when used according to label instructions.
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 & CHEMICAL PROPERTIES

Physical State: Liquid	Water Solubility: Soluble
Color: Yellow to Brown	% Volatile (Volume): Not determined
Odor: Mild	Specific Gravity: 1.0 g/cc
Melting Point: Not determined	Vapor Pressure: Not determined
Boiling Point: 216°F (102°C)	Vapor Density: Not determined
Freezing Point: 25°F (-4°C)	pH: 6 to 8

SECTION 10 STABILITY & 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

SECTION 11 TOXICOLOGICAL INFORMATION

Eye Effects/Eye Irritation: Non-irritating
Acute Oral Effects: LD₅₀ (oral-rat): >5000 mg/kg
Acute Inhalation Effects: No data available
Acute Dermal Effects: LD₅₀ (dermal-rabbit): >2000 mg/kg
Skin Irritation: Non-irritating
Skin Sensitization: Not a skin sensitizer

SECTION 12 ECOLOGICAL INFORMATION

This product contains only components that are naturally occurring in soil and are 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 or sanitary sewer.
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:** September 2009
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.