



Rethink Tomorrow

13100 W. Lisbon Road Suite 600, Brookfield, WI. 53005 USA

# Material Safety Data Sheet

## 1. Product identification

Product use: Pea & Lentil inoculant  
MSDS number: NZBWI-403  
Effective date: August 1, 2011

## Optimize<sup>®</sup> granular pea & lentil

## 2. Composition:

Component	CAS number		% (w/w)
Pure culture of <i>Rhizobium leguminosarum</i> bacterium	Not available		Not available
Peat granule	Not available		Not available
Lipo-chitooligosaccharide (LCO)	Not available		$2.7 \times 10^{-8}$

  

Hazardous ingredient	CAS number	OSHA PEL	ACGIH TL V
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.)

**Note:** This product contains beneficial microorganisms. Novozymes exclusively uses non-pathogenic beneficial microorganisms that are considered to be non-allergenic, non-irritating and non-sensitizing when used as directed. Exposure to very high levels of airborne microbial spores may result in very rare respiratory impairments or cause an allergic reaction in sensitized individuals. A Material Safety Data Sheet is supplied with all products.

## Emergency overview:

Granular products contain fungal spores and viable bacterial cells. This product may cause adverse effects to individuals allergic to molds and/of fungi and should not be used by immunocompromised and/or immunosuppressed individuals. Absorption by eye or skin contact, inhalation and ingestion must be prevented at all time when handling this product. Users MUST wear standard protective clothing and equipment including gloves, safety glasses and a NIOSH-approved respirator during product use and storage as well as during equipment maintenance and clean-up. In case of contact with skin or eyes, immediately flush exposed areas with plenty of water. Get medical attention if irritation occurs.

## 3. Hazard identification:

**NFPA:** Health – 1, Flammability – 1, Reactivity – 0

### Potential health effects:

**Eyes:** Contact may cause eye irritation

**Skin contact:** Not a likely hazard

**Skin absorption:** A single prolonged exposure is not likely to result in this material being absorbed in harmful amounts. Do not expose open cuts or wounds to products.

**Ingestion:** Not a likely hazard

**Inhalation:** Inhalation of large amounts of dust may cause discomfort

**Birth defects:** Not available

**Reproductive effects:** Not available

**Mutagenic effects:** Not available.

**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

## 4. First aid measures:

**Eyes:** Flush with a continuous gentle stream of water for 5 minutes. If irritation develops, get medical attention.

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

**Ingestion:** Do not induce vomiting unless instructed to do so by qualified medical personnel. If individual is conscious, give them plenty of water to drink. Get medical attention if stomach discomfort develops.

**Inhalation:** Move individual to fresh air. Get medical attention if breathing difficulty develops.

**Note to physician:** Employ supportive care. Treatment should be based on the judgment of the physician in response to reactions of the patient.

## 5. Fire-fighting measures

**Flash point:** Not available

**Explosive limits:** Not applicable

**Auto-ignition temperature:** Not applicable

**Extinguishing media:** Use extinguishing medium appropriate to control the surrounding fire.

**Flammable limits in air (% by volume):**

**lower:** Not applicable

**upper:** Not applicable

**Unusual fire and explosion hazards:** None known

**Fire-fighting equipment:** Wear positive-pressure self-contained breathing apparatus and full turn-out gear.

## In Case of Emergency Call: 1-888-744-5662

Available 24 hours a day 7 days a week from April 1<sup>st</sup> to June 15<sup>th</sup>,  
otherwise available from 8:00am to 4:30pm CST, Monday to Friday.

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## 6. Accidental release measures:

Contain the spill with any available absorbent medium and store in a suitable container until proper disposal can be arranged.

## 7. Handling and storage:

Store any unused product in original unopened containers in a cool, dry place, away from sunlight, drafts and direct heat sources. Practice reasonable caution to avoid contact with this product. Users should wash hands before eating, drinking, chewing gum, using tobacco or the toilet. Keep out of reach of children. Do not ship or store this product with food, feed, drugs or clothing.

## 8. Exposure controls, personal protection, and exposure limits:

**Rhizobium leguminosarum:** Not available

**LCO:** Not available

**Quartz:** OSHA PEL 10 mg/m<sup>3</sup> ACGIH 0.1 mg/m<sup>3</sup>

**Breathing:** Use a NIOSH or MSHA approved air-purifying respirator if respiratory irritation is experienced.

**Protective clothing:** Wear clean body-covering clothing and impervious gloves when handling this product.

**Eyes:** Safety glasses with side shields recommended.

**Other protection:** Washing facilities should be available.

## 9. Physical and chemical properties:

**Boiling point:** Not applicable

**Vapour pressure:** Not applicable

**Volatility:** Not applicable

**pH:** 6.5-7.3

**Appearance:** Dark brown granules

**Odour:** Earthy

**Bulk density:** Not available

**Evaporation rate:** Not applicable

**Solubility in water:** Not soluble

**Freezing point:** Not applicable

**Odour threshold:** Not available

**Melting point:** Not applicable

**Physical state:** Solid

**Vapor density:** Not applicable

**Specific gravity:** 0.6

## 10. Stability and reactivity:

**Stability:** Stable

**Conditions to avoid:** None

**Hazardous polymerization:** Will not occur

**Incompatibility:** Acids, bases, oxidizers, reducers, disinfectants, fungicides, and/or biocides may inactivate.

**Hazardous products of decomposition:**

Oxides of carbon

## 11. Toxicological information:

**Eye effects/eye irritation:** No data available

**Acute oral effects:** LD<sub>50</sub> (rat) : >5000 mg/kg

**Acute inhalation effects:** No data available

**Acute dermal effects:** LD<sub>50</sub> (rabbit) : >2000 mg/kg

**Skin irritation:** Non-irritating

**Skin sensitization:** Not a skin sensitizer

## 12. Ecological information:

**Toxicity to bees:** Not available. Not a likely hazard

**Toxicity to fish:** Not available. Not a likely hazard

**Toxicity to birds:** Not available. Not a likely hazard

## 13. Disposal considerations:

This product may be disposed of by placement in any landfill approved for domestic waste.

## 14. Transportation information:

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

**Hazard class:** Not applicable

## 15. Regulatory information:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

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

**Master reference:** On file

**MSDS status:** New MSDS

## 16. Other information:

**Prepared by:** M. Sonier

This information may not be adequate for every application and therefore it is up to the user to determine the suitability of this information based on conditions of use, storage or local regulations.

**Notice:** The information contained in this Material Safety Data Sheet is presented in good faith and is believed to be accurate as of the effective date shown above. However, no other warranty, expressed, or implied, is given. Laws, regulations, and/or third party rights may prevent customers from importing, using, processing and/or reselling the products described herein in a given manner. Without separate written agreement between the customer and Novozymes to such effect this document does not constitute a representation or warranty of any kind and is subject to change without further notice.

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