



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

# Material Safety Data Sheet

## 1. Product identification

Product use: *Rhizobium* Inoculant  
MSDS number: NZBWI-502  
Effective date: August 1, 2011

## Nitragin<sup>®</sup> Gold clover

## 2. Composition:

Component	CAS number	% (w/w)	
Pure culture of <i>Rhizobium leguminosarum</i> biovar <i>trifolii</i> bacterium	Not available	Not available	
Hazardous ingredient	CAS number	OSHA PEL	ACGIH TL V
Crystalline quartz (Small amounts of quartz are a naturally-occurring component of the carrier substrate.)	14808-60-7	10 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>

**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.

## 3. Hazard identification:

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

**Potential health effects:**

**Primary entry routes:** Oral (swallowing), inhalation

**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

**Medical conditions aggravated by exposure:** Respiratory disease

**Target organs:** Lungs

**Chronic effects:** Chronic inhalation of quartz dust causes lung disease

**Carcinogenicity:**

Quartz is listed as a carcinogen by NTP and IARC

**Birth defects:** Not available

**Reproductive effects:** Not available

**Mutagenic effects:** Not available

## 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

## 5. Fire-fighting measures:

**Flash point:** None

**Auto-ignition temperature:** Not available

**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

## 6. Accidental release measures:

Sweep up spills and store in a suitable container until proper disposal can be arranged.

## 7. Handling and storage:

**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

---

**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.

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

**Rhizobium leguminosarum:** Not available  
**Quartz:** OSHA PEL 10 mg/m<sup>3</sup> ACGIH 0.1 mg/m<sup>3</sup>  
**Ventilation:** Good ventilation is required. Avoid generating aerosols during handling.  
**Breathing:** Users must wear an approved dust-mist filtering respirator/mask (MSHA/NIOSH approval number prefix TC-21C) or a NIOSH approved respirator/mask with any N-95, R-95, P-95 or HE filter.

**Protective clothing/equipment:** Dust-proof goggles are recommended when working in dusty conditions  
**Eyes:** Safety glasses with side shields recommended.  
**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

## 9. Physical and chemical properties:

**Physical state:** Solid  
**Water solubility:** Insoluble  
**Color:** White  
**% Volatile (volume):** Not applicable  
**Odor:** Odorless  
**Specific gravity:** 2.4 - 2.7  
**Melting point:** Not available  
**Vapor pressure:** Not applicable  
**Boiling point:** Not applicable  
**Vapor density:** Not applicable  
**Freezing point:** Not applicable  
**pH:** 7.7

## 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

**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.

## 11. Toxicological information:

**Eye effects/eye irritation:** No data available.  
**Acute oral effects:** LD<sub>50</sub> (ori-rat) : >5000 mg/kg  
**Acute inhalation effects:** No data available  
**Acute dermal effects:** LD<sub>50</sub> (dml-rbt) : >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.

---

**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.