

1. Product identification

Product use: Biofungicide
MSDS number: NZB-906
Effective date: March 1, 2013

12320 Cutten Road. Houston, Texas 77066

Actinovate® SP

2. Composition:

| Components | CAS number | % (w/w) |
|--------------------------------------|------------|---------|
| <i>Streptomyces lydicus</i> WYEC 108 | N/A | 0.0371 |
| Inerts | | 99.9629 |

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:

Individuals allergic to molds and/or fungi should avoid using this product. If use by allergic individuals is unavoidable, absorption by eye or skin contact, inhalation, or ingestion must be prevented to minimize the chance of allergic reaction.

3. Hazard identification:

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

Potential health effects:

Eyes: Causes slight irritation.

Skin contact: Causes no negative side effects.

Skin absorption: May be harmful if absorbed through skin. Do not expose open cuts or wounds to this product.

Ingestion: Irritation of mucous membranes.

Inhalation: Prolonged or repeated exposure may cause injury to the respiratory tract. Avoid breathing dust.

Chronic effects: Not a likely hazard

Cancer: Not a likely hazard

Birth defects: Not available

Reproductive effects: Not available

Mutagenic effects: Not available

4. First aid measures:

Eyes: Hold open eye and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Ingestion: Call a Poison Control Center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control centre or doctor. Do not give anything by mouth to an unconscious person.

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable mouth-to-mouth if possible. Call a poison control centre or doctor immediately for treatment advice.

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 available

Auto-ignition temperature: Not available

Extinguishing media: Use extinguishing media appropriate for controlling the surrounding fire

Sensitivity to mechanical impact/static discharge: Take precaution against static discharges

Unusual fire and explosion hazards: Minimize use of water to prevent environmental contamination

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

6. Accidental release measures:

Sweep up the spill and store in a suitable container until proper disposal can be arranged. Wash surface. Wear appropriate protective equipment.

7. Handling and storage:

Do not contaminate water, food or feed by storage or disposal. This product consists of living microbes. Store in a well-ventilated area, out of reach of children and domestic animal. Store at room temperature and use before the expiry date. Close opened packages tightly. Practice reasonable caution to avoid contact with this product. Avoid breathing dusts and mists if generated. Users should wash thoroughly after using this product.

8. Exposure controls, personal protection and exposure limits:

***Streptomyces lydicus* WYEC 108:** Not available.

Engineering controls: 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.

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

Available 24 hours a day 7 days a week from April 1st to June 15th,
otherwise available from 8:00am to 4:30pm CST, Monday to Friday.
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Protective clothing: All handlers must wear long sleeved shirt, long pants, shoes plus socks and water-resistant gloves

Eyes: Wear protective eyewear such as goggles, face shield or shielded safety glasses

Oral: Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is potential for exposure to the material. Always wash thoroughly after handling.

Other protection: None specified

9. Physical and chemical properties:

Boiling point: Not applicable

Vapour pressure: Not applicable

Volatility: Not applicable

Color: Pale white

Odour: Slight odour of rich soil

Specific gravity: Not available

Solubility in water: Soluble

pH: 8.3

Physical state: Solid, powder

Bulk density: 5.5

10. Stability and reactivity:

Stability: Stable under normal conditions of handling and storage for up to 6 months from the date of manufacture

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

Hazardous decomposition products: Thermal decomposition releases CO, CO₂, hydrocarbons.

Hazardous polymerization: Does not occur

11. Toxicological information:

Active ingredient is practically non-toxic, non-allergenic and non-pathogenic to mammals. Pre-existing medical conditions should not be aggravated by exposure.

Acute oral toxicity: Not available

Acute dermal toxicity: Not available

Skin irritation: Not available

Acute inhalation toxicity: Not available

Eye irritation: Not available

Skin sensitization: Not available

Carcinogenicity: Not listed as a carcinogen by PMRA, EPA, OSHA

12. Ecological information:

Toxicity to bees: No signs of toxicity or pathogenicity

Toxicity to fish: No signs of toxicity or pathogenicity

Toxicity to birds: No signs of toxicity or pathogenicity

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.

Do not contaminate water when cleaning equipment or disposing of equipment wash waters or rinsate.

13. Disposal considerations:

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Dispose of in accordance with local regulations.

14. Transportation information:

Material should be properly labeled for transport. This item is not regulated as a hazardous material for all modes of transportation within the U.S. and Canada.

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.

FIFRA: This product is regulated by the US Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and its Amendments.

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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