

***Bacillus subtilis* GBO3 (129068) Fact Sheet**

Summary

Bacillus subtilis GBO3 is a bacterium that is used as a fungicide on flower and ornamental seeds, and on agricultural seeds including seeds for cotton, vegetables, peanuts, and soybeans. The bacterium colonizes the developing root system of the plant and thus competes with certain fungal disease organisms. Use of the fungicide is not expected to harm humans or the environment.

I. Description of the Active Ingredient

Bacillus subtilis GBO3 is a spore-forming bacterium which, when applied to seeds, colonizes the developing root system of the plants. The bacterium competes with and thereby suppresses plant disease fungal organisms such as *Rhizoctonia*, *Fusarium*, *Aspergillus*, and others. The bacteria continue to live on the root system and provide protection throughout the growing season. Because *Bacillus subtilis* GBO3 forms spores, pesticide products containing this bacterium are stable. Therefore, even if treated seeds are stored for prolonged periods, the bacteria stay alive, and then grow and multiply after the seeds are planted.

II. Use Sites, Target Pests, And Application Methods

- **Use Sites:** Crop seeds, including seeds for cotton, peanuts, soybeans, wheat, barley, peas and beans.
- **Target pests:** Intended to aid in the suppression of plant diseases caused by such fungi as *Rhizoctonia*, *Fusarium*, *Alternaria*, *Aspergillus* and others that attack the root systems of plants.
- **Application Methods:** Products with this active ingredient may be used as a seed treatment either by 1) mixing the powdery *Bacillus subtilis* fungicide product with the seeds in a planter-box at the time of planting, or by 2) preparing a slurry mix that consists of the product, the seeds, insecticides, and/or other fungicides, and water. The slurry mix is continuously agitated and is used within 72 hours.

III. Assessing Risks to Human Health

Based on review of the toxicology and other information submitted for *Bacillus subtilis* GBO3, EPA finds no evidence of risks to human health. Because the bacteria colonize plant roots, exposure to humans would be minimal once the seeds are planted.

IV. Assessing Risks to the Environment

EPA finds that *Bacillus subtilis* GBO3 is not harmful to non-target organisms or to the environment. Because of the natural occurrence of the bacterium on roots and the lack of aquatic exposure from seed treatment use, no harm is foreseen to beneficial insects or to aquatic species. There have been no reports of adverse effects on aquatic species described in the public literature. Because birds may eat seeds treated with this bacterium, its effect on terrestrial birds was tested and no toxic effects were seen. Tests show also that this bacterium does not harm seeds or cause them to decay.

V. Regulatory Information

Bacillus subtilis GBO3 was registered (licensed for sale) as a pesticide active ingredient on July 9, 1992. As of October 1999, there were four fungicide products approved by EPA with *Bacillus subtilis* GBO3 as the active ingredient.

VI. Producer Information

Gustafson Inc.
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Plano, Texas 75093

VII. Additional Contact Information

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