

***Agrobacterium radiobacter* strain K1026 (006474) Fact Sheet**

Summary

Agrobacterium radiobacter strain K1026 is a microbial pesticide that can be used to treat germinating seeds or roots and stems of certain stone fruit (such as cherries and plums), nut trees, and ornamentals to protect them from crown gall disease. Products are approved for use in greenhouses and nurseries. EPA has approved the use of this pesticide until fall 2001 while it waits for additional data to more fully characterize the identity of the microbe. However, based on the available information, the use of the pesticide is not expected to have any adverse effects on human health or the environment.

I. Description of the Active Ingredient

Agrobacterium radiobacter strain K1026, is the result of a simple genetic alteration of a naturally occurring bacterium *Agrobacterium radiobacter* strain K84 that is widespread in soil and found near plant roots. Except for a small portion of DNA removed from K84, the two strains are essentially identical and have the same characteristics. Removal of this genetic material prevents strain K1026 from transferring a piece of DNA to the bacteria that cause crown gall disease and reduces the likelihood of resistance. A toxic compound produced by both K1026 and K84 controls certain other *Agrobacterium* species that cause crown gall disease.

II. Use Sites, Target Pests, and Application Methods

- **Use sites:** Germinating seeds to non-bearing: almond, apricot, cherry, nectarine, peach, plum, prune, walnut, and pecan.

Applications to roots and stems to non-bearing: almond, pecan, apricot, caneberries, cherry, nectarine, peach, plum, prune, walnut, and ornamentals such as euonymus and rose.

- **Target pests:** *Agrobacterium radiobacter* strain K1026 is approved for use against the following bacteria that cause crown gall disease: *Agrobacterium tumefaciens* and *Agrobacterium rhizogenes*.
- **Application methods:** The pesticide product containing *Agrobacterium radiobacter* strain K1026 is mixed with water to form a solution. Germinating seeds, stems and roots, and cuttings are dipped into or otherwise treated with this solution.

III. Assessing Risks to Human Health

Based on review of the available toxicology and pathogenicity data and other information related to *Agrobacterium radiobacter* strain K1026, EPA finds that this microbe is not likely to produce adverse effects in humans. A very similar organism, *Agrobacterium radiobacter* strain K84, has been used for approximately twenty years to control crown gall disease without any reports of adverse effects or reactions. Strain K1026 is not intended for use on fruit-bearing (i.e., food) crops. Consequently, it is not likely to pose a dietary risk to humans. While *Agrobacterium radiobacter* strains K1026 and K84 are not known to cause any infectious diseases in humans, some further confirmatory data are needed. EPA is requiring data on the growth temperature variation to determine whether strain K1026 can grow at human body temperatures and pose a risk to humans.

IV. Assessing Risks to the Environment

The ecological toxicology studies were waived based on the derivation of *Agrobacterium radiobacter* strain K1026 from strain K84, minimal if non-existent toxicity to non-target species by strain K84, and minimal exposure to non-target organisms. Based upon this evaluation, EPA has determined that *Agrobacterium radiobacter* strain K1026 is likely to pose only a minimal risk to the environment or non-target organisms. EPA is requiring certain biochemical tests for K1026 and K84 to confirm the relatedness of these two strains.

V. Regulatory Information

Agrobacterium radiobacter strain K1026 was registered (licensed for use) on September 28, 1999 for two years. This registration will automatically expire on September 30, 2001 unless the registrant, Bio-Care, provides EPA with the additional required data on effects on humans and on non-target organisms. Based on these new data, EPA would then decide whether to convert the registration to one without an expiration date. There is one registered product with *Agrobacterium radiobacter* strain K1026 as the active ingredient.

VI. Producer Information

Agrobacterium radiobacter strain K1026 is produced by the following company:

Bio-Care Technology Pty Limited ("Bio-Care")
RMB 1084 Pacific Highway

Somersby, NSW 2250
AUSTRALIA

VII. Additional Contact Information:

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