



**PIMARICIN (NATAMYCIN)** is both economical and effective because it works in less than the amounts of potassium sorbate and, unlike other sorbates, it prevents yeasts and moulds into the product, eliminating the cost of further applications. The activity of patrician does not destroy other germs and therefore does not disturb the natural fermentation / ripening process of food.

Safely and effectively protects many foods that can cause deterioration from moulds, yeasts and other fungi and prevents the formation of moulds and yeasts on the surface.

Unlike other antimicrobial pimarin does not affect the appearance, taste or colour of products.

### **UCFM MEATS**

The surface of dried sausages is liable to contamination due to the growth of mould. This may not only affect the product's quality, but also leads to its deterioration. There are several methods that can be applied to prevent this:

Treating the surface of the sausage with various chemicals and antifungal preservatives by dipping or spraying with sorbic acid, potassium sorbate, lactic acid, or **natamycin**.

Potassium sorbate can even be applied inside the sausage itself. However, this has more limited effects on microbial growth rates than other preservatives.

Natamycin can be applied to the sausage by spraying or dipping. Unlike sausages treated with potassium sorbate, those treated with natamycin have a longer-lasting antifungal effect. Furthermore, while potassium sorbate and sorbic acid are chemical food preservatives, natamycin is completely natural.

***The effectiveness of the product is because it's not soluble ( only dispersible ) and therefore, it remains on the surface of the casing instead of migrating inside of the stuff. Just dilute 1–2 g/litre in water, (0.1 - 0.2%) stir from time to time and spray or dip the stuffed casing 10 seconds.***

Using packaging materials with an inner liner pre-treated with antifungal agents that prevent bacteria growth. Incorporating antifungal agents in biopolymer films, and especially natamycin with rosemary extract. The main aim of all these methods is to prolong the life of the sausages, and make them profitable for the brands that sell them in order to achieve minimum rates of loss.

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**Natamycin is also used in:** Meat • Cheese • Baked products •

**Horticulture all types of plants that are subject to pathogens • Hothouse • Post-harvest for Fruits and vegetables**



**PIMARICIN (NATAMYCIN)** is both economical and effective because it works in minute amounts, it prevents yeast and fungi and mould on the plant, vegetable or fruit. Just prepare a suspension for spraying or a dip and stir from time to time. 2 g/litre water (0,2%) this is in most cases is enough

Unlike other antimicrobial's Natamycin does not affect the appearance, taste or colour of products., has been shown to be both safe and effective in lengthening the life of a wide range of food products for more than thirty years. **Natamycin is approved by many countries for use in cheeses and meats.**

**The industry currently uses synthetic chemicals such as promethan, fludioxonil/di/fi, thiabendazole and difenoconazole for various rot diseases by drenching in a dump tank, fogging in cold storage, waxing or spraying on the packing line. Resistance development is a concern for all of them.**

Natamycin has a different mode of action than the synthetic chemicals currently used to control blue and grey mould in pome fruits; brown rot, grey rot and Rhizopus rot in stone fruits, green mould and sour rot in citrus fruits. It interrupts the formation of cell membranes, a fundamental part of any organism's reproduction. Fungi can't circumvent that. In contrast, synthetic chemicals block certain growth pathways and the fungi usually find a way around it to grow and survive over time.

That's why bio rational, or nontoxic, substances such as natamycin provides another valuable option for disease control. Natamycin safely and effectively protects many foods and plants that can cause deterioration from yeasts moulds and other fungi. What's more, natamycin seemed to be the only thing that offers any control for Mucor rot, a postharvest disease which affects apples pears, citrus, strawberries and has been found in tomatoes

For horticulture, it is used as a non-toxic spay for plants, banana, pineapple, tomato, potato etc. where mould or fungi is problem. Postharvest for vegetable and fruit as a spray or dip. Just dilute 2 gm/litre in water (0.2%)

Safely and effectively protects many plants that can cause deterioration by moulds, yeasts and other fungi and prevents waste by increased shelf life of vegetable and fruit which has been inoculated with a natamycin spray or dip.

**Some of the pathogens that Natamycin can act against that normally attack vegetables and fruit:**

- *Aspergillus niger* is a fungus and one of the most common species of the genus *Aspergillus*. It causes a disease called black mould on certain fruits and vegetables such as grapes, apricots, onions, and peanuts, and is a common contaminant of food.
- *Botrytis cinerea* (Ascomycota) infects over 200 plant species, causing grey mould, evident on the surface as grey fluffy mycelium. Worldwide, it causes annual losses of \$10 billion to \$100 billion.
- *Phosphor infesting* is a fungus-like microorganism, which causes the serious potato and tomato disease known as late blight
- *Alter aria solani* is a fungal pathogen, that produces a disease in tomato and potato plants called early blight. The pathogen produces distinctive "bullseye" patterned leaf spots and can also cause stem lesions and fruit rot on tomato and potatoes.
- Septoria leaf spot of tomato caused by the fungus *Septoria lycopersici* occurs on tomatoes worldwide. The fungus infects only solanaceous plants, of which tomato is the most important.
- The Tomato Wild Fungus *Fusarium oxysporum f. sp. lycopersici* are important tomato pathogens throughout the world, causing severe economic losses.
- *Callitriche acutatum*; Anthracnose fruit rot is a fungal disease that causes fruit rot and flower blight in warm wet weather.

## BIOPESTICIDES REGISTRATION ACTION DOCUMENT

### I. EXECUTIVE SUMMARY

Natamycin is a new biochemical pesticide active ingredient intended for use as a fungi stat to control the germination of mould and yeast spores in the growth media of mushrooms produced in enclosed mushroom production facilities. Natamycin is a naturally -occurring antimetabolic compound derived from the common soil microorganisms, *Streptomyces natalensis*.

It is commercially produced by a submerged oxygen-based fermentation of *Streptomyces natalensis* cells which are then lysed by increasing the temperature in the fermentation vessel thereby causing the release of Natamycin from the cell solids.

Natamycin was originally discovered in *Streptomyces natalensis* in South Africa in the early 1950s, Natamycin has a non-toxic mode of action and functions as a fungi stat, preventing the germination of fungal spores. It has no effects on fungal mycelia. Development of antibiotic resistance to Natamycin has not been reported during its entire history of use. Natamycin has been used as a food preservative worldwide for over 40 and is approved as a food additive/preservative by the European Union, the World Health Organization and individual countries for use as a fungi stat to suppress mould on cheese, meats and sausage.

In the United States, Natamycin is approved by The Food and Drug Administration as a direct food additive/preservative for the inhibition of mold and yeast on the surface of cheeses, and as an additive to the feed and drinking water of broiler chickens to retard the growth of specific moulds

Natamycin is also FDA approved for use as a treatment to suppress fungal eye infections such as blepharitis, conjunctivitis and keratitis

On August 17, 2007, the EPA's Biochemical Classification Committee (United States) classified Natamycin as a microbial pesticide for **greenhouse, nursery, turf grass, agricultural, and seed treatment uses.**

The pimaricin is used in the cheese industry dipping the cheeses or spraying or in the brine (feta cheese).

Links for further information

- [New postharvest fungicide idea comes from an old place](#)
- [If it were not for natamycin, banana crops would disappear within ten years.](#)
- [Natamycin is used to control mould and yeast spores in the growth media of mushrooms](#)