

PRODUCT

Natamycin is a fungicide that prevents yeasts and moulds from appearing in foods. It is extremely effective when used in small amounts. It is used in smaller quantities than potassium sorbate, and unlike other sorbates it prevents yeasts and moulds from migrating into the product, eliminating the cost of reapplication. The action of **natamycin** does not destroy other microorganisms, meaning that it does not alter the food's natural maturing process. Unlike other antimicrobial agents, it does not affect the appearance, taste or colour of the products.

Empirical formula: C₃₃ H₄₇ N₀₁₃.

Presentation:

PVC containers 100, 500 and 3,000 gr.

Acidity: Natamycin is most effective at pH levels of between 5 and 7. Between pH 3 and 5, the action decreases by 8 to 10%. Below pH 4 and above pH 9, the fungicide's effectiveness may be reduced by as much as 30%.

Use of natamycin in cheese

In the case of cheese, the natamycin may be sprayed in an aqueous medium on the surface or the cheese may be immersed in it, so that it forms a lining.

The natamycin does not affect the quality of the taste or smell of food and does not inhibit the culture effect in fermented foods. Natamycin applied to the surface of food is effective for three months or more, depending on the storage conditions. It is affected only very little by heat, but breaks down progressively when exposed to UV light.

Natamycin in dried meats

Natamycin is used to externally protect food matured by microorganisms, like certain cheeses and dried meats. It prevents the external formation of moss without affecting the bacterial flora which favours its maturing.

In Europe, natamycin is often used in the surface treatment of dry fermented sausages and also to treat the surface of cooked hams.

Regulation (EU) 438/2013 of the European Commission, 13 May 2013, modifies and corrects annex II of Regulation (EC) 1333/2008 of the European Parliament and Council with regard to the use of certain food additives. In this Regulation, Natamycin (E 235) is authorised, amongst other additives, in the surface treatment of cold slice and for different food products.

The European regulation for meat is similar to that for cheese. The maximum level of natamycin on the surface of dry cured sausages is 1 mg/dm², and it must be absent at a depth of more than 5 mm.

Microbiological effectiveness of natamycin

Various laboratories and tests have shown natamycin's effectiveness against moulds, yeasts and other fungi for over 30 years. It does not act against bacteria, viruses, or other organisms such as protozoa.

The amount of natamycin and the method of use varies depending on the type of food to be protected, as well as the initial microbial level.

Application of natamycin

Natamycin has been successfully used in the external treatment of cheese and cured meat products.

We recommend preparing a concentrated suspension in water to obtain the final dose.

Taking the low solubility of natamycin into account, we recommend diluting 50 g per litre of water at room temperature.

Recommended dose of natamycin

As a general rule, the recommended dose of **natamycin** is 10 g per 100 l.

It can be applied on the surface of cheeses or sausages by dipping the product in an aqueous solution of **natamycin**, or by spraying the aqueous solution around the product. The most common concentration varies between 1,000 and 2,000 ppm, although some applications may require lower concentrations.

Concentrations:

Ppm 50 1.000 1.250 1.500 2.000 2.500 4.000

% natamycin 0.010 0.20 0.25 0.30 0.40 0.50 0.80

G natamycin per l of water 0.100 2.00 2.50 3.00 4.00 5.00 8.00

YEASTS G/ML

	Saccharomyces cerevisiae 8021 2.50
Brettanomyces bruxellensis 1.5	Saccharomyces cerevisiae var ellipsoideus 2.50
Candida albicans 1.5-2.00	Saccharomyces exiguus 2.50
Candida guilliermondii 3.00	Saccharomyces ludwigii 0339 2.50
Candida vini 1.00	Saccharomyces rouxii 0562 5.00
Hansenula polymorpha 1.00	Saccharomyces sake 0305 5.00
Kloeckera apiculata 3.00	Torulopsis candida 2.00
Saccharomyces bailii 1.00	Torulopsis lactis var condensii 3.00
Saccharomyces bayanus 1.00	

FUNGI G/ML

Aspergillus chevalieri 4298 0.63	Botrytis cinerea 1.00-2.00
Aspergillus clavatus 0.10-0.20	Fusarium spp 10.00
Aspergillus flavus CBS3005 6.00	Gloeosporium album 2.50
Aspergillus flavus BB67 4.50	Mucor mucedo 1.20-5.00
Aspergillus flavus (Madagascar) 5.00	Penicillium chrysogenum 0.60-1.00
Aspergillus flavus (Port Lamy) 5.00	Penicillium digitatum 2.50
Aspergillus nidulans 1.00	Penicillium expansum 5.00
Aspergillus niger 1.00	Penicillium islandicum 1.10
Aspergillus ochraceus 4069 2.50	Penicillium notatum 4640 5.00
Aspergillus oryzae 10.00	Penicillium roqueforti var.punctatum 10.00
	Rhizopus oryzae 4758 10.00

Temperature changes

Natamycin solutions are stable at room temperature and remain unchanged during short periods of exposure to temperatures exceeding 100°C.

However, they are affected by exposure to temperatures above 50°C for long periods, or periods exceeding 24 hours. This is due to the hydrolysis of its circular structure.

Natamycin solutions can be pasteurized, but this may lead to a decline in performance.

Conservation of natamycin

Natamycin should be kept away from direct exposure to sunlight. The product's properties may otherwise be altered by prolonged exposure to ultraviolet light.

Chemical oxidation may also affect its effectiveness, and it is important to prevent **natamycin** coming into direct contact with oxidants. This is especially true of agents containing peroxide, chlorine and hydrogen sulphides.

We recommend using a glass, plastic or stainless steel container.

Contact with Natamycin
VGP, supplier of
natamycin, producer and
distributor of natamycin
to food industries around
the world.

Contact