Natamycin

Natamycin (Pimaricin) is a kind of antifungal food preservative produced by *Streptomyces Natalensis.* It inhibits the growth of molds and yeasts. Commercial Natamycin products contain 50% natamycin. It will be able to avoid food spoilage caused by various molds and yeasts with a small dosage of natamycin. But it does not affect the growth of bacteria. In general 1-10mg/kgcan kill various yeasts and molds in food.
It has been widely used in food industry such as cheese, juice, wine and meat processing.

Physical property
Natamycin appears as an off white to cream powder and no distinct smell. Natamycin in crystal form is very stability. It has very poor solubility in water and most organic solvents. At room temperature the solubility of natamycin is around 50 mg per liter of water. Its poor solubility makes it suitable for food surface treatment. Natamycin usually remains on the food surface, where molds and yeasts grow.

Activity and stability:
The efficacy of natamycin is determined by concentration and its stability. The following factors such as pH, temperature, light, oxide, heavy metal, affect the stability of natamycin. It is usually recommended to use natamycin under pH 4-7 and in the shade and cool place.

Advantages:
Protect food from spoilage caused by yeast and molds and extend the food shelf life.Reduce the recycle times and cut production costs
Meet customers' demand for natural food
Inhibit the growth of yeast and molds for a long timeImprove the food flavor
Low dose and high efficacyLow oral toxicity
Not digestible by human and animal bodyNo allergic reaction
No cross-resistance

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The dosage of natamycin 50%:

Food	Level (ppm)	Food	Level (ppm)
Cheese	200-300	Flour based products	200-500
Pasteurised milk	10–400	Meat products(Sausage)	2000
Yoghurt	20-50	Seafood (vacuum-packed)	1000
Egg products	100-200	Grape Juice/ Apple Juice	20/30
Pasteurised soups	100-200	Alcoholic beverages	2.5

Technical data sheet of Natamycin

	Natamycin 50%	Natamycin 90%	Natamycin 95%
Strain	*Streptomyces natalensis*		
EU NO. / INS NO /CAS NO.	E235/235/7681- 93-8		
Chemical Formula	C33H47O13N Approximate formula WT: 665.74		
Carrier	Lactose/Dextrose/NaCl	-------	-------
pH	5.0-7.5		
Loss on drying/ (%)	≤8.0		
Total bacterial count (cfu/g)	< 100		
Coliform bacteria/	≤30 (MPN/100g)		
Salmonella	Not detected in 25g		

Microbiological challenge test

		pH 5.0	pH7.0	pH8.0
		MIC (ppm)	MIC (ppm)	MIC (ppm)
Mould	Aspergillus niger	10	15	15
	Aspergillus flavus	15	10	15
	Paecilomyces	10	10	20
	Trichoderma	10	35	20
	Terreus	15	35	20
	Chaetomium sp	10	35	20
Yeast	Saccharomyces cerevisiae	15	35	30
	Candida tropicalis	15	35	30
	Baker's yeast	15	35	30

Executive Standard:

- The United Stated(FDA), §172.155,2000
- FAO/WHO the Joint Expert Committee on Food Additives (JECFA)
- USP29 (Cosmetic and Pharmaceutical Industry)
- Commission Directive 2008/84/EC

Storage conditions:

Store unopened at dark, cool and dry place

Package:

100g/bottle, 500g/bottle, 25kg/drum

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