

PRODUCT DESCRIPTION SHEET

Code 0302	File name PDS0302	Analyst Ms. Shah	Version 03	Date 02/02/2022
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DESCRIPTION

NisinZ® is a naturally occurring antimicrobial peptide produced by bacterium *Lactococcus lactis* from sauerkraut. It is used to extend the shelf life of processed foods by inhibiting Gram-positive bacteria

KEY BENEFITS

- Growth control of Gram-positive bacteria
- Shelf life extension
- Natural and Consumer-friendly labelling

APPLICATION AREAS

Crumpets, Tomato juice, Beer, Wine, fermented spirits, Canned foods, Cereal and starch-based deserts, Cheese products, Cream products, Dairy and fat-based desserts, Dips, Dressing and snacks, Edible casings, Processed egg products, Fermented soy bean paste, Fine bakery products, Fruit juice and concentrate, Fruits and vegetable preparations including pulp, Fully preserved fish and fish products, Liquid egg products, Mayonnaise, Oil emulsions (<80% fat), Paste and paste products, Prepacked coconut water, Processed meat, poultry and fish products, RTE soups and broths, Refrigerated cooked potato-based products, Semolina or tapioca puddings, Sauces and toppings, Tomato juices and products, and Vinegar

DIRECTION FOR USE

The recommended dosage of NisinZ® is in the range of 50-500 mg/kg. In general, prepare NisinZ® solution with cold boiled distilled water and then add directly into foods.

The applied method and exact dosage of NisinZ® depends on the application for which it is intended. Please contact us for specific information.

COMPOSITION

Nisin Z concentration (w/w)	≥2.5%
Sodium Chloride (w/w)	≥75%
Loss on drying (% w/w)	≤3%

*The exact percentage variations may occur from batch to batch.

HEAVY METALS

Lead (mg/kg)	≤1
Arsenic (mg/kg)	≤1

MICROBIOLOGICAL SPECIFICATIONS

Total aerobic count (CFU/g)	≤1,000
<i>E. coli</i> (/25g)	Absent
<i>Salmonella</i> spp. (/25g)	Absent

PHYSICAL / CHEMICAL SPECIFICATIONS

Appearance*	Light brown to Grey white powder
pH (10% aq sol.)	3.1-3.6

*Appearance may vary from batch to batch.

PACKAGING

NisinZ® is available in 500 g/bottle or 10 kg/ barrel with integral, tamper-proof seals.

Plastic materials comply with Regulation (EU) No. 1935/ 2004, 2023/2006 and 10/2011.

STORAGE

The shelf life is 24 months when stored unopened at room temperature in dry conditions, away from direct sunlight and odorous products.

When opened, store at room temperature in the original container.

ALLERGENS

Components	Yes / No
• Peanut or its derivatives	No
• Tree nuts, macadamia nuts, pecans, pine nuts, pistachios and walnuts or their derivatives	No
• Sesame or its derivatives	No
• Eggs or its derivatives	No
• Fish or its derivatives	No
• Crustaceans and shellfish or their derivatives	No
• Soy or its derivatives	No
• Wheat, triticale or their derivatives	No
• Mustard or its derivatives	No
• Milk or its derivatives (e.g. Lactose)	No
• Sulphites	No
• Celery or its derivatives	No
• Lupin or its derivatives	No
• Molluscs or its derivatives	No

CERTIFICATION STATUS

NisinZ is KOSHER and HALAL certified.

GMO- STATUS

According to regulations EC No. 1829/2003 and 1830/2003. Microorganisms used to produce NisinZ® are not genetically modified.

REGULATIONS

NisinZ® has been approved as a food preservative worldwide. Its addition level for commonly consumed foods ranges from 100 to 500 mg/kg (pure base in max. 12.5 mg/kg).

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The regulations governing the use of NisinZ® vary considerably in the countries in which it is currently approved. Advice regarding the legal status of this product is available as appendix 1.

APPENDIX 1 REGULATORY AND APPROVAL OF NISIN IN FOOD APPLICATIONS

Geographic Area	Food categories	Max. Level					
Algeria	Processed cheese	2.5 mg/kg		Canned or bottled edible fungi and algae	0.2 g/kg		
Argentina	Cheese, processed cheese, requeijao, and ricotta	12.5 mg/kg		Canned coarse grains	0.2 g/kg		
Australia	Cream products (flavoured, whipped, thickened, sour cream etc.)	10 mg/kg		Other coarse grain products (Coarse grain sausage products only)	0.2 g/kg		
	Cheese and cheese products	GMP		Instant wheat or rice products (fresh instant noodles only)	0.25 g/kg		
	Oil emulsions (<80% fat)	GMP		Instant wheat or rice products (rice and wheat flour sausage products only)	0.25 g/kg		
	Tomato products (pH < 4.5)	GMP		Pre-processed meat product	0.25 g/kg		
	Fruits and vegetable preparations including pulp	GMP		Cooked meat products	0.5 g/kg		
	Flour products cooked on hot plates	25 mg/kg		Fully preserved fish and fish products (can be directly consumed)	0.5 g/kg		
	Liquid egg products	GMP		Egg products (changed physical properties)	0.25 g/kg		
	Tomato juices pH < 4.5	GMP		Vinegar	0.15 g/kg		
	Beer and related products	GMP		Soy sauce	0.2 g/kg		
	Dairy and fat-based desserts, dips and snacks	GMP		Paste and paste products	0.2 g/kg		
	Sauces and toppings (including mayonnaise and salad dressings)	GMP		Blended condiment	0.2 g/kg		
	Processed meat, poultry in whole cuts or pieces	12.5 mg/kg		Beverages (excluding packaged drinking water in 14.01)	0.2 g/kg		
	Bahrain	Pasteurized, flavoured, and long-life milks; processed cheese; cheese; other dairy products; canned foods	No limit	Colombia	Cheese	12.5 mg/kg	
	Bolivia	Permitted additive	No limit	Costa Rica	Cheese products	No limit	
Brazil	Cheese, processed cheese, pasteurized cheese, requeijao, and ricotta	12.5 mg/kg	Ecuador	All foods	Not specified		
Bulgaria	Cheese	5 mg/kg	Egypt	Processed cheese and processed cheese paste	12.5 mg/kg		
	Ice for storing fish	No limit		Ecuador	Matured cheese	12.5 mg/kg	
Canada	Baking mixes containing egg, Brine for hard-boiled egg, Liquid whole egg, Liquid whole egg mix	15 mg/kg				Cream (natural)	10 mg/kg
	Concentrated (naming the fruit) juice; (naming the fruit) Juice; (naming the fruits) Juice; Unstandardized beverages containing fruit juice; Unstandardized beverage concentrates containing fruit juice	2.5 mg/kg				Cheese like products	12.5 mg/kg
	Meat loaf, Ready-to-eat prepared meat, Ready-to-eat prepared meat by-product, Ready-to-eat prepared poultry meat, Ready-to-eat prepared poultry meat by-product, Ready-to-eat preserved meat, Ready-to-eat preserved meat by-product, Ready-to-eat preserved poultry meat, Ready-to-eat preserved poultry meat by-product, Ready-to-eat smoked fish, Sausage	25 mg/kg	European Union		Whhey protein cheese	12.5 mg/kg	
Refrigerated cooked potato-based products	12.5 mg/kg			Grain and starch-based desserts (e.g., rice puddings, cassava pudding)	3 mg/kg		
Unstandardized heat-treated low-acid sauces	6.25 mg/kg			Matured cheese	12.5 mg/kg		
Unstandardized processed cheese products	30 mg/kg			Unripened cheese excluding products falling in category 16	12.5 mg/kg		
Liquid plant protein isolate-based products that resemble egg products	25 mg/kg			Ripened Cheese			
Chile	Cheese	12.5 mg/kg			Processed cheese		
China	Milk and dairy products (excluding products of the category 01.01.01, 01.01.02, 13.0)	0.5 g/kg			Cheese products (excluding products falling in category 16)		
					Heat-treated meat products	25 mg/kg	
					Processed eggs and egg products	6.25 mg/kg	
					Dessert excluding products in category 1, 2, 3	3 mg/kg	
				Mascarpone	10 mg/kg		
			Gibraltar	Canned foods (pH <4.5 or given botulinum process), cheese, clotted cream	No limit		
			Guyana	Canned foods, including canned meat, with pH <4.5, or given botulinum process, clotted cream	No limit		
			Hong Kong	Canned foods, cheese, clotted cream	No limit		
			Iceland	Ripened and processed cheese	12.5 mg/kg		
					Semolina, tapioca and similar puddings	3 mg/kg	
			India	Cheese or processed cheese	12.5 mg/kg		
					Canned rasgolla (the cans shall be maximum internally lacquered with sulphur dioxide	5 mg/kg	
				Paneer	12.5 mg/kg		

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	Prepacked coconut water	0.125 mg/kg	Saudi Arabia	Ripened cheese	12 mg/kg	
Indonesia	Cheese preparations	12.5 mg/kg	Arabia	Cheese analogues	12 mg/kg	
Israel	Cheese (except soft white cheese)	No limit		Whey protein cheese	12 mg/kg	
Japan	Cheese (except processed cheese)	12.5 mg/kg		Dairy-based deserts (e.g. pudding, fruit or flavoured yoghurt)	12.5 mg/kg	
	Meat products	12.5 mg/kg		Cereal and starch-based deserts (e.g., rice pudding, tapioca pudding)	3 mg/kg	
	Whipped creams	12.5 mg/kg		Fine bakery wares (sweet, salty, savoury) and mixes	6.25 mg/kg	
	Dressing	10 mg/kg		Heat-treated processed meat, poultry and game products in whole pieces or cuts	25 mg/kg	
	Mayonnaise	10 mg/kg		Heat-treated processed comminuted meat	25 mg/kg	
	Sauces	10 mg/kg		Edible casings (e.g., sausage casings)	7 mg/kg	
	Fine bakery products	6.25 mg/kg		Liquid egg products	6.25 mg/kg	
	Processed cheese	6.25 mg/kg		Ready-to-eat soups and broths, including canned, bottled, and frozen	5 mg/kg	
	Miso (fermented soybean paste)	5 mg/kg		Singapore	Liquid egg products, cheese, canned foods given a botulinum process	12.5 mg/kg
	Processed egg products	5 mg/kg		South Africa	Cheeses, processed or blended cheese including cheese spread, processed cheese preparations, and soft cheese	12.5 mg/kg
	Moist, unbaked, sweet cakes made with cereal grains or starch	3 mg/kg		Sri Lanka	Permitted additive	No limit
	Jordan	Processed cheese and spreadable processed cheese	12.5 mg/kg	Taiwan	Cheese	0.25 g/kg
	Malaysia	Cheese, canned foods given a botulinum process	No limit	Thailand	Whey protein cheese	12 mg/kg
	Mauritius	Canned foods, cheese, clotted cream	No limit		Dairy-based deserts (e.g. pudding, fruit or flavoured yoghurt)	12.5 mg/kg
Mexico	Permitted additive	No limit		Cereal and starch-based deserts (e.g., rice pudding, tapioca pudding)	3 mg/kg	
	Processed cheese	12.5 mg/kg		Fine bakery wares (sweet, salty, savoury) and mixes	6.25 mg/kg	
Montenegro	Processed cheese	12.5 mg/kg		Heat-treated processed meat, poultry and game products in whole pieces or cuts	25 mg/kg	
Morocco	Clotted cream	10 mg/kg		Heat-treated processed comminuted meat	25 mg/kg	
	Ripened and processed cheese	12.5 mg/kg		Edible casings (e.g., sausage casings)	7 mg/kg	
New Zealand	Semolina, tapioca and similar puddings	3 mg/kg		Clotted cream (plain)	10 mg/kg	
	Processed cheese and cheese food, spreadable processed cheese, and processed cheese spread	12.5 mg/kg		Unripened cheese	12.5 mg/kg	
	Beer	5 mg/kg		Ripened cheese	12.5 mg/kg	
Panama	Fresh cheeses	No limit		Cheese analogues	12.5 mg/kg	
Papua New Guinea	Tomato puree, canned tomato pulp, juice and paste, canned fruit (all with pH <4.5), cheese	No limit		Trinidad and Tobago	Canned foods given a botulinum process, clotted cream, cheese	No limit
	Cheese, processed cheese, requijiao, ricotta	10 mg/kg		Tunisia	Clotted cream	10 mg/kg
Peru	Permitted additive	No limit			Ripened and processed cheese	12.5 mg/kg
Philippines	Processed cheese	12.5 mg/kg		Turkey	Clotted cream	10 mg/kg
Qatar	Unripened cheese	12 mg/kg			Ripened and processed cheese	12.5 mg/kg
	Ripened cheese	12 mg/kg			Semolina, tapioca, and similar puddings	3 mg/kg
	Cheese analogues	12 mg/kg		Ukraine	Preserved vegetables (green peas, tomatoes, coloured cabbage, etc.)	2.5 mg/kg
	Whey protein cheese	12 mg/kg		Uruguay	Hard and processed cheese	12.5 mg/kg
	Dairy-based deserts (e.g. pudding, fruit or flavoured yoghurt)	12.5 mg/kg			Cheese, processed cheese, requijiao, and ricotta	10 mg/kg
	Cereal and starch-based deserts (e.g., rice pudding, tapioca pudding)	3 mg/kg		United States	Pasteurised cheese spreads and pasteurized process cheese spreads	6.25 mg/kg
	Fine bakery wares (sweet, salty, savoury) and mixes	6.25 mg/kg			Pasteurised cheese spread with fruits, vegetables	
	Heat-treated processed meat, poultry and game products in whole pieces or cuts	25 mg/kg			Processed cheese	
	Heat-treated processed comminuted meat	25 mg/kg			Pasteurized process cheese spread with fruits	
	Edible casings (e.g., sausage casings)	7 mg/kg		Venezuela	Processed cheese	12.5 mg/kg
	Liquid egg products	6.25 mg/kg		Vietnam	Preservative	12.5 mg/kg
	Semolina or tapioca puddings and similar products	3 mg/kg				
	Aged and processed cheeses	12.5 mg/kg				
	Curd cheeses and cream cheeses (mascarpone type)	10 mg/kg				
Liquid egg products pasteurized (egg white, egg yolk, whole egg)	6.25 mg/l					
Unripened cheese	12 mg/kg					

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