

PRODUCT DESCRIPTION SHEET

Code 0201	File name PDS_0201_Epolyly®	Analyst Dr. Juliana Lane	Date 24/01/2020
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DESCRIPTION

Epolyly® is a pure ε-Poly-L-lysine derived naturally from a submerged aerobic fermentation of *Streptomyces albulus* PD-1. With a high antimicrobial activity against fungi, Gram-positive and Gram-negative bacteria, Epolyly® is an ideal natural broad-spectrum antimicrobial for extending shelf life of a variety of foods.

KEY BENEFITS

- Inhibition of Total Plate Count (TPC) including fungi, Gram-positive and Gram-negative bacteria;
- Increased safety by minimizing chloride and inorganic contents;
- Shelf life extension;
- Natural, consumer-friendly label.

APPLICATIONS

	Applications	Max. dosage (w/w)	
Bakery	Cake batter and cheesecakes	0.01%	
	Mooncake crusts	0.012%	
	Muffins and popovers	0.01%	
	Pancakes and waffles	0.025%	
	Pies (not fruit)	0.025%	
	Pie fillings	0.025%	
	Puddings, custards, and mousses	0.025%	
	Sweet pastries	0.01 - 0.025%	
	Confectionery	Sweet syrups and toppings	0.025%
		Culinary	
Culinary	Boiled rice	0.02-0.05%	
	Cooked vegetables	0.02-0.05%	
	Custard cream	0.02-0.05%	
	Dishes	0.05%	
	Japanese beef steak (Sukiyaki)	0.05%	
	Noodles	0.05%	
	Potato salad	0.05%	

Dairy	Sliced fish (Sushi)	0.1-0.5%	
	Soups	0.1-0.5%	
	Steamed cakes	0.1-0.5%	
	Cheese-based mixtures	0.025%	
	Cottage, ricotta, and cream cheeses	0.025%	
	Cream substitutes	0.025%	
	Cream	0.01%	
	Feta, mozzarella, and Mexican cheese	0.025%	
	Imitation cheese	0.025%	
	Processed cheese and cheese spreads	0.025%	
Fruits & vegetables	Sour cream and dips	0.025%	
	Yogurt	0.01%	
	Dry beans and bean-based prepared foods	0.025%	
	Frozen fruit bars and sorbet	0.025%	
	Pickles, olives, and pickled products	0.025%	
	Potato- and sweet potato-based foods (excluding French fries)	0.025%	
	Prepared fruit and fruit mixtures	0.025%	
	Vegetable-based prepared foods	0.01 - 0.025%	
	Meat, Poultry and seafood	Fish and shellfish-based foods	0.025%
		Fish and shellfish	0.025%
Meat substitutes		0.025%	

DIRECTION FOR USE

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Registration No. BE 0817 450 771

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EPOLYLY®

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In general, dissolving Epolyly® with cold boiled water or distilled water, then add directly into foods depending on the exact application.		Vitamin C	7.9 mg
		Ash	<0.5 g
COMPOSITION			
ε-Poly-l-lysine (on dry basis w/w)		≥95%	
Loss on drying (w/w)		≤8%	
Residue on ignition (w/w)		<2%	
*The exact percentage variations may occur from batch to batch.			
HEAVY METALS			
Lead (mg/kg)		≤1	
Arsenic (mg/kg)		≤1	
MICROBIOLOGICAL SPECIFICATIONS			
Total plate count (/g)		≤10	
<i>E. coli</i> (/g)		Absent	
<i>Salmonella</i> (/g)		Absent	
PHYSICAL / CHEMICAL SPECIFICATIONS			
Appearance		Hygroscopic yellow powder	
pH of 1% aqueous solution		6.0-7.0	
Particle size		100 mesh>90%	
*Appearance variations may occur from batch to batch.			
NUTRITIONAL DATA			
Approximate values for Nutrition labelling per 100g.			
Contribution to energy level is insignificant at recommended usage levels.			
Energy		371 calories	
Protein		64 g	
Carbohydrate		27g	
-Sugar		<0.5 g	
Fat		<0.1 g	
-Saturated fat		<0.1 g	
-Trans. fat		<0.1 g	
Total dietary fiber		28 g	
Vitamin A		<10 µg	
PACKAGING			
Epolyly® is available in 500 gr/bottle or 50 g/pouch with integral, tamper-proof seals. Packaging is available in other quantities.			
Plastic bottle and pouch materials comply with Regulation (EU) No 10/2011.			
STORAGE CONDITIONS			
Conditions: 24 months, store unopened below 20°C in dry conditions, away from direct sunlight and odorous products. When opened, store at approx. 20°C in original container.			
Shelf life: Shelf life is 24 months when stored according to recommendations.			
COUNTRY OF ORIGIN			
Belgium			
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 derivative			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
CERTIFIED STATUS			

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The product is certified by KOSHER, HALAL and ISO22000:2005.

GMO STATUS

According to regulations Ec No. 1829/2003 and 1830/2003.

Microorganisms used for the production of this product are not genetically modified.

REGULATIONS

Epolyly® ε -Poly-l-lysine has been approved as a food preservative in 4 countries, including China, Japan, South Korea and the United States. Its addition level for commonly consumed foods ranges from 0.005% to 0.05%. The regulations governing the use of Epolyly® 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 EPOLYLY® IN FOOD APPLICATIONS

Countries	Food categories	Max. dosage (w/w)			
China	Bakery	0.15 g/kg			
	Meat, poultry and fishes	0.25 g/kg			
	Beverages	0.2 g/L			
South Korea	Food preservatives	No limit			
Japan	Culinary	Boiled rice	0.02-0.05%		
		Cooked vegetables	0.02-0.05%		
		Custard cream	0.02-0.05%		
		Dishes	0.05%		
		Japanese beef steak (Sukiyaki)	0.05%		
		Noodles	0.05%		
		Potato salad	0.05%		
		Sliced fish (sushi)	0.1-0.5%		
		Soups	0.1-0.5%		
		Steamed cakes	0.1-0.5%		
		United states	Bakery	Cake batter and cheesecakes	0.01%
				Muffins and popovers	0.01%
				Pancakes and waffles	0.025%
				Pies (not fruit)	0.025%
Pie fillings	0.025%				
Puddings, custards, and mousses	0.025%				
Sweet pastries	0.01 - 0.025%				
Beverage	Alcoholic beverages		0.01%		
	Coffee and coffee beverages		0.025%		
	Chocolate-flavoured drinks		0.01%		
	Eggnog		0.01%		
	Energy, fitness, sports, and isotonic drinks (ready-to-drink)		0.025%		
	Fruit-flavoured drinks		0.025%		
	Gelatine, rice, and sugar cane-based beverages		0.025%		
Fruit smoothies	0.025%				

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		Nectars	0.025%
		Soft drinks	0.025%
		Tea and tea beverages	0.025%
		Tomato-based juices	0.025%
		Wine	0.005%
Confectionary		Sweet syrups and toppings	0.025%
Culinary		Eggs	0.025%
		Egg-based dishes	0.025%
		Fat-based sauces	0.01%
		Gravy	0.025%
		Grain-based dishes	0.025%
		Pastas	0.025%
		Peanut butters and sauces	0.025%
		Reduced-fat or fat-free margarine-like spread	0.005%
		Salad dressings (regular and low-fat)	0.025%
		Soups (excluding canned)	0.025%
		Soy products	0.025%
Dairy		Cheese-based mixtures	0.025%
		Cottage, ricotta, and cream cheeses	0.025%
		Cream substitutes	0.025%
		Cream	0.01%
		Feta, mozzarella, and Mexican cheese	0.025%
		Imitation cheese	0.025%
		Processed cheese and cheese spreads	0.025%
		Sour cream and dips	0.025%
		Yogurt	0.01%
Fruits and vegetables		Dry beans and bean-based prepared foods	0.025%
		Frozen fruit bars and sorbet	0.025%
		Pickles, olives, and pickled products	0.025%
		Potato- and sweet potato-based foods (excluding French fries)	0.025%
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