PHOSPHOLIPASE A_2

For heat stability, emulsifying properties, and viscosity of egg yolk & soy products

neova technologies

Phospholipase A2 has a wide array of applications in the food industry from improving the texture of baked goods, stabilizing emulsions such as sauces or dressings, to the production of hydrolyzed lecithin.

Phospholipase A2 (PA2) is an enzyme derived from government certified porcine pancreas. It serves as a catalyst in the hydrolysis of the fatty acid in the second position of phospholipids/lecithin.

Phospholipase A2 complies with the recommended purity requirements for food grade enzymes provided by the joint FAO/WHO Expert Committee on Food Additives (JECFA), and the Food Chemical Codex (FCC). All extraction and refining is done under Food Quality Systems at Neova Technologies Inc. facility in Abbotsford, British Columbia, Canada.

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Most notably, egg yolks have important emulsifying properties due to their unique lipid and protein composition. Treating egg yolks with

Phospholipase A2 results in the conversion of approximately 70% of the lecithin found in egg yolk to lysolecithin, which further improves emulsification. Enzyme-modified egg yolk also demonstrates a high degree of stability at elevated temperatures (i.e. 70° - 80°C) compared to untreated yolk that has little tolerance for temperatures above 60°C.

Modified yolk treated with Phospholipase A2 has demonstrated superior stability at retort temperatures above 150°C when used in certain food systems (e.g. mayonnaise), which allows for the incorporation of pasteurization into processing, which is critical for microbial quality and contributes to increased shelf life as well.

Applications

Food

- Improving heat stability, emulsifying properties, and viscosity of egg yolk and soy products
- Improves softness and crumb structure of baked goods
- Enzymatic degumming of vegetable oil
- Low fat cheese and dairy production
- Preventing oiling out during cheese production – increasing yield

Product Details

Packaging: 20kg jerry cans
Form: Clear, yellow to dark amber liquid

Technical Information

Usage Information

Improvement of the emulsifying properties of whole egg or egg yolk using Neova Technologies Inc. Phospholipase A2[2]

1. Add 0.1% (w/w) Phospholipase A2 to egg yolk.
2. Allow several hours for reaction: up to 4 hours for egg yolk at 50°C, up to 15 hours for egg yolk at 20°C, or up to 72 hours for egg yolk at 4°C.

OR

1. Add 0.05% (w/w) Phospholipase A2 to whole egg.
2. Allow up to 10 hours for reaction at 20°C.

Because of the contents of the egg, pH adjustment is not required.

Ingredient Declaration

Porcine Enzyme
Preservative(s)
Carrier(s)

KEY PERFORMANCE PARAMETERS	MIN	MAX	UNITS
Phospholipase Activity[1]	10,000	12,200	%

1 Products with various phospholipase activity are available upon request
2 Results may vary with quality/source of egg

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MICROBIOLOGICAL DATA

Standard Aerobic Plate Count	$<5x10^4$	CFU/g
Total Yeast & Mold Count	$<1x10^2$	CFU/g
Escherichia coli	Not Detected	in 25g
Salmonella	Not Detected	in 25g
Coliforms	<30	CFU/g

SHELF LIFE & STORAGE

2 years 2 years from date of manufacture when stored at 4-8°C in original packaging.

AVOID EXCESSIVE HEAT AND PROTECT FROM MOISTURE AND SUNLIGHT.

PACKAGING

20kg packaged in jerry cans

SMALLER VOLUMES AVAILABLE UPON REQUEST

ALLERGEN DATA

Dairy/Dairy Derivatives	Absent
Egg/Egg Derivatives	Absent
Soy/Soy Derivatives	Absent
Wheat/Wheat Derivatives	Absent
Peanuts/Peanut Derivatives	Absent
Treenuts/Treenut Derivatives	Absent
Fish/Fish Derivatives	Absent
Shellfish/Shellfish Derivatives	Absent

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