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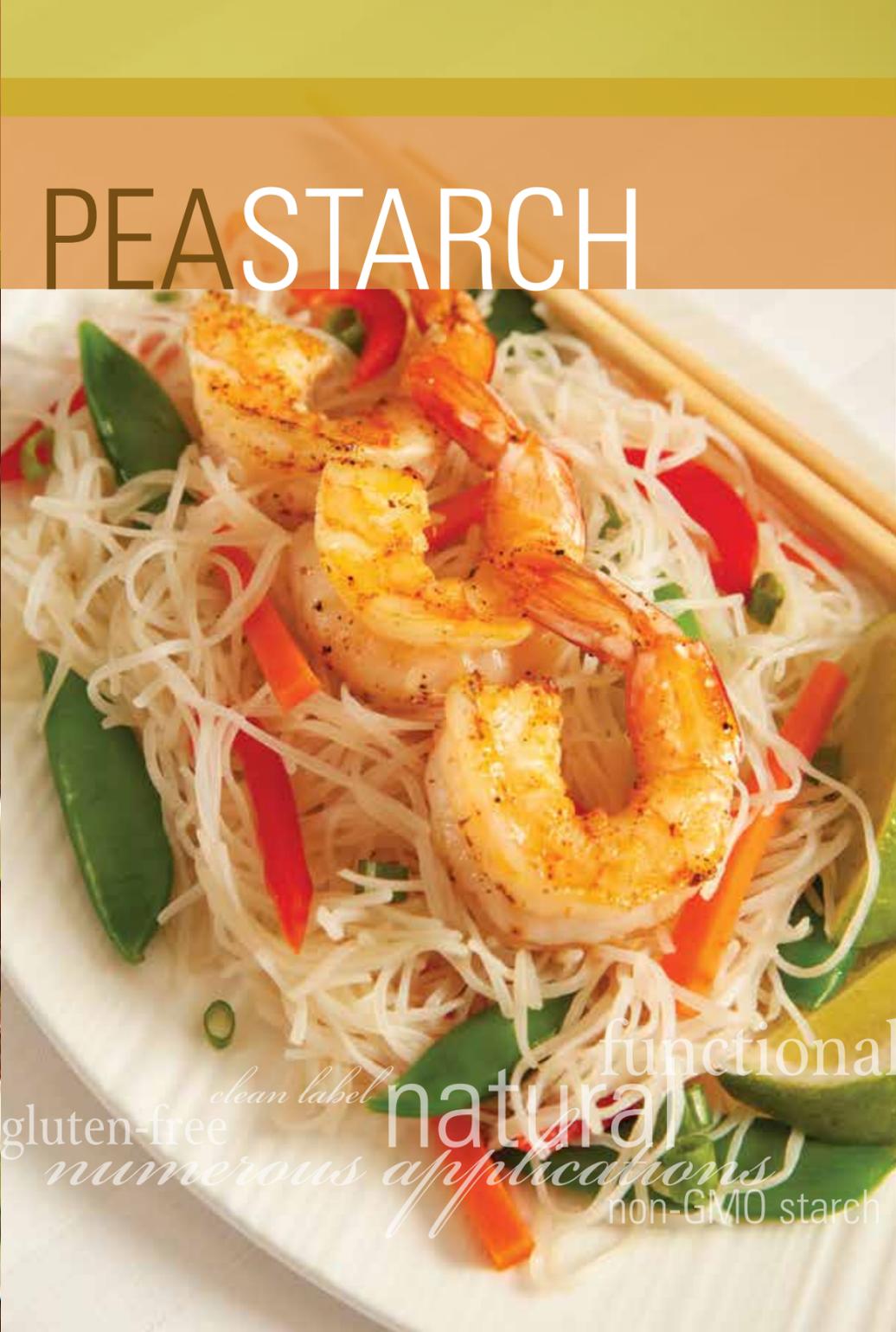
PEA STARCH

PEA STARCH CHARACTERISTICS

- Naturally gluten-free
- Non-GMO
- Hypoallergenic
- Low gelatinization temperature
- Excellent film-forming property
- Stable under high temperature, acid, and shear.
- Relatively high amylose content (~35%)
- Neutral Taste

FOOD PRODUCT APPLICATIONS

- Meat Products
- Extruded Snacks
- Cookies and Crackers
- Gluten-Free Baking
- Asian Noodles
- Batters and Coatings
- Soups and Sauces
- Soft Candies
- Gums



DRY PEAS are among the most versatile pulse. Starch extracted from dry peas (*Pisum Sativum*) has functional characteristics that can be incorporated into numerous applications. It is a natural, clean label, gluten-free, non-GMO starch. Pea starch is high in amylose (~35%) and has very high capacity to retrograde into a firm opaque gel. It can be easily cooked with a gelatinization temperature of approximately 70°C. Pea starch is a slowly digestible starch. It is available as a dry or wet milled product.

functional, versatile, natural, clean label, starch, gluten-free, numerous applications, non-GMO starch, dry peas, versatile starch, hypoallergenic, gluten-free

FRYING BATTER

Pea starch is suitable for batter frying application. When pea starch is incorporated into the batter, the coating is crispier than batter made with corn starch. The recommended amount is 3:1 wheat flour to pea starch.

FISH 'N CHIPS BATTER MIX

Ingredients	Grams	Percent
All purpose flour	107.1	71.4
Pea starch	35.7	23.8
Salt	3.4	2.3
Baking powder	2.8	1.8
Nonfat dry milk	1.1	0.8

Blend above mix. Add 176g iced water and blend with paddle. Yield about 10 fish fillets.

MEAT APPLICATIONS

At the present time, the highest usage of pea starch is in meat products. Pea starch provides strong, firm and sliceable gel upon cooling. It has been used to extend sliced chicken breast, sliced turkey, chicken nuggets, beef burgers, sausages and many other meats.

GLUTEN-FREE BAKING

Pea starch performs remarkably well in gluten-free baking. Pea starch helps provide the texture and structure to baked goods. It can be used to replace traditional gluten-free ingredients such as rice flour, tapioca starch, and potato starch, without deteriorating the quality.

GLUTEN-FREE CHOCOLATE CHIP MUFFINS

Ingredients	Grams	Percent
Pea starch	120	9
Lentil flour	60	5
Rice flour	60	5
Sugar	260	20
Butter	218	17
Eggs (4 eggs)	200	16
Heavy cream	120	9
Baking powder	8.8	0.7
Salt	1	0.1
Chocolate chips	230	18
	1278	100

Using a paddle attachment, cream sugar and butter. Mix in egg and vanilla, then add heavy cream. Mix well. Add dry ingredients and mix for about 2 minutes. Fold in chocolate chips. Scoop the batter into a muffin liner to the rim. Bake at 370°F for 21 minutes. Yield about 14 muffins.

EXTRUDED SNACKS

Pulse grits and flours have been extruded into a variety of snacks. Pea starch can be extracted and used to increase volume and enhance crispiness of extruded snacks, due to its high amylose content.

SOFT CANDY

Pea starch works well in soft candy applications. Compared to corn starch, pea starch develops a firmer, chewier texture.

SOFT CANDY

Ingredients	Grams	Percent	Solid Percent
Corn syrup (62DE)	75	15	80
Corn syrup (Karo)	75	15	80
Sucrose	100	20	99
Pea starch	50	10	93
Water	200	40	0
	500	100	352

Flavoring

Ingredients	Grams
Citric acid	5
Water	5
Strawberry Flavor	7.5

1. Hydrate starch with partial water and then mix it with other ingredients.
2. Cook all the ingredients except flavoring, citric acid solution (50:50 w:w) to a rolling boil while stirring vigorously.
3. Cook to an end point of 56-58% solids, controlled by a refractometer.
4. To the cooked mixture, add flavoring and citric acid (50:50 with water) to taste.
5. Deposit into moulding starch (no more than 7% moisture) and dry at 120-140°F for 8 hours to reach 81-83% solids.
6. Shake out of starch and blow off excess, then pass through steam on a sieve and roll into sugar.

SOUPS AND SAUCES

Pea starch can be used as a thickener for soups and sauces. It provides thicker consistency than corn starch, therefore lower levels can be used. The white neutral color and bland flavor of pea starch does not interfere with the color and flavor of the final products.

MORNAY SAUCE

Ingredients	Grams	Percent
Butter, salted, melted	17.5	6.0
Pea starch	10.5	3.6
2% Milk	236	80.3
Salt	1.3	0.4
Black pepper	0.3	0.1
Nutmeg, ground	0.1	0.0
Shredded 5 Italian cheese blend	28.3	9.6

Whisk together milk, pea starch, and melted butter. Bring to boil and cook for 1.5 minutes. Add salt, black pepper, and nutmeg, stir. Add cheese and stir until well-combined. Serve warm. Yield about 5 servings.

TERIYAKI SAUCE

Ingredients	Grams	Percent
Soy sauce	96	51.5
Light brown sugar	46	24.7
Apple cider vinegar	14	7.5
Garlic powder (fine)	1.4	0.8
Minced onion	1.4	0.8
Worcestershire sauce	0.6	0.3
Starch mixture		
Pea starch	7	3.8
Water	20.0	10.7
	186.4	100

Combine all ingredients except for the starch mixture and heat until boiling. Add well-mixed starch mixture into the sauce and heat until thickened, about 13 minutes. The sauce now can be used to stir-fry meats and vegetables. Yield about 2 servings.

STARCH NOODLES

Starch noodles are traditional in Asian cuisine. Mung bean and potato starch are typically used to make the noodle (also known as cellophane noodles, Chinese vermicelli, bean thread, or glass noodles). Pea starch can be used to make a white, clear, noodle with firm texture. It is an excellent alternative to Mung bean starch.

STARCH NOODLE

Step 1	Grams	Step 2	Grams
Pea starch	11	Pea starch	239
Water	140	Water	174

Combine Step 1 ingredients and heat until thick and gelatinized. Combine starch from Step 2 to Step 1 mixture. Mix and slowly add Step 2 water. Mix well.

To make the noodles, squeeze/press the noodle into hot boiling water and boil for 1 min. Soak and wash noodles in cold water for 1 min. The noodles are ready to be used, or hang and dry overnight at room temperature. Yield about 3-4 servings.

