BLENDTEK

Head Office
10 Goddard Crescent
Cambridge, ON N3E 0A9

Office Phone
844.279.4401

Email
info@blendtek.com

Website
blendtek.com

Tapioca Starch

What is it?

Tapioca starch is a starchy white powder derived from the roots of the cassava plant. Cassava is a tropical tuberous plant, and its roots are rich in carbohydrates, making it a valuable source of starch. Tapioca starch is a common ingredient in industrial food manufacturing due to its unique functional properties and versatility, as well as the fact that is it naturally non-GMO and non-allergenic. Tapioca starch is available in its native form, as well as modified versions that are more suitable for process tolerance against such conditions as shear, temperature and pH. It can be used as a thickening agent, texture modifier, binder and gelling agent.

Where is it used?

Tapioca starch is widely used in the food industry in various applications:

Asian Desserts: tapioca is a key ingredient in jellies, tapioca pearls, boba tea and mochi

Bakery: gives batter viscosity, improves texture and moisture retention of baked goods such as muffins, cakes and croissants. Can also be used to replace eggs to remove allergens, make plant-based claims or lower cost. Commonly used in gluten-free baked goods.

Beverages: to improve mouthfeel

Confectionery: can replace gelatin in gummies, also provide texture to soft candies

Dairy: provides viscosity and smooth texture in yogurt and spreads such as cream cheese

Dairy Alternatives: replace sodium caseinate and provide smooth and glossy texture in plant-based cheese

Fruit Preparations: provides viscosity, shelf life improvement and process tolerance to fruit-based fillings

Meat: improved water binding and texture in processed meats such as ham, deli meat and sausages. Often used in surimi (imitation crab). Also used in coating systems for battered and breaded products like nuggets and fingers.

Meat Alternatives: as a binder in plant-based meat alternatives such as burgers and nuggets

Prepared Foods: provides viscosity, shelf life improvement and process tolerance to soups, sauces, marinades, dressings and gravies. Dough improved for pizza dough. Customized texture in noodles and dumplings. Also used as part of the coating system in fried foods like french fries and appetizers.

Snacks: provides texture and crispiness in extruded snacks, wafers and coated nuts

Variations and Selection Criteria

To appropriately select the correct tapioca starch, we need to consider the properties of the product such as texture, viscosity, and mouthfeel, and emulsification requirements; the processing conditions such as temperature, shear, pH; and the finished product requirements such as shelf life, storage and freeze-thaw stability. Tapioca starch is naturally GMO-free and allergen-free however, modified tapioca starch with enhanced

properties would be restricted from products making natural or clean label claims so in that case native tapioca starch is recommended.

Conclusion

Tapioca starch is growing in popularity because it is naturally gluten-free, allergen-free and GMO-free. Its ability to thicken, improve texture, and act as a binding agent in all types of food products from bakery to snacks make it a key tool in the product developers tool box. The technical team at Blendtek can help you select the appropriate option for your project.

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