STARCHES & FLOURS FOR FOOD APPLICATIONS

POTATO BASED

Eco Agri offers a wide range of potato-based starches and flours originated from Europe. Products are offered in line with the European potato campaign that starts around August.

Native & Pre-Cooked Potato starches, clean label starches free from E-numbers (food additives). Main applications are soups, sauces, snacks, surimi, processed sea food and processed meat where it used as a thickener, binder, texturizer, anti-caking, or gelling agent. Available native potato starches:

- Standard viscosity
- High viscosity
- Low Moisture (9%, 12% residue of water)
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Modified Potato Starch, chemically modified starches contain an E-number; the declaration is Modified starch. Oxidized starch (E1404) is a suitable carrier for food mixtures exhibiting low viscosities after hot preparation. Compared to native starches, acetylated cook-up starches (E1420) are characterized through lower gelatinization temperatures and an improved stability against retrogradation. Regarding heat treatment, acidic conditions and shear forces, di-starch phosphates (E1412) are stable in terms of their viscosity. Acetylated di-starch phosphates (E1414) and adipates (E1422) additionally exhibit excellent freeze-thaw stability as well as clear appearance of the final preparation. Starch sodium octenyl succinate (E1450) exhibits emulsifying properties making it perfectly suitable in the application of oil-inwater applications.

Potato Flakes used for snack foods and instant mashed potato as well as thickener and enhancer of creamy frozen desserts and gravies.

Potato Flour, a micro flake that attracts and holds water. Main applications are potato and moist yeast bread with an excellent shelf life. Potato flour as a thickener for smoother sauces, gravies and soups, and in gluten free cooking.

Potato Granules are cooked and dehydrated potatoes in a form of a dense, free flowing potato powder which re-hydrates very easily when added to the hot boiling water. Potato granules are used for potato puree, as ingredient for snack and potato pellets production and various fresh and frozen potato dishes (e.g. potato dumplings, croquettes, stuffed dumplings or noodles. Potato granules are as well used as thickener in dry soups and sauce mixes. Potato granules outperform potato flakes when it comes the preserving the original taste of potatoes.

TAPIOCA (CASSAVA) BASED

Due to our local presence in Thailand, Eco Agri can offer a wide range of tapioca starches and flours that contribute to increasing demand for non-allergen and non-gmo and gluten free ingredients. Due to years of development tapioca-based ingredients can be used in many applications where modified (waxy) corn starches and wheat starches are currently being used. Over the last decade tapioca-based ingredients are as well used as prebiotics.

Native Tapioca Starch used as thickener and stabilizer in puddings, breads, sauces, fruit pies and meat products.

Coarse Grade Native Tapioca Starch is an agglomerated native tapioca starch which is used in production environments where dust is an issue.

Waxy Tapioca Starch is an amylose-free starch with up 100% of amylopectin content. Waxy tapioca starches perform well in refrigerated and frozen foods as opposed to waxy starches and non-waxy starches from maize, wheat, and potato. Unmodified waxy tapioca starch yields thick, clear pastes with good shelf life. With a rising demand for clean-label foods by consumers and markets, the cold-temperature stability of waxy tapioca starch offers an attractive alternative to the use of chemically or genetically modified starch in frozen/refrigerated foods.

ALPHA (α) Pre-gelatinized Starch is a cold-water-swelling, tapioca starch. It is processed to create powder which have a certain size, shape, and structure, fabricating a particularly smooth surface. Alpha starch is suitable for multi-purposes in food application. It is cold water soluble, and consistency exhibits an instant swelling when added to aqueous preparation.

Modified Tapioca Starches are used in a wide variety of food applications. Applications depend on kind of chemical or physical modification. Chemically

modified starches are categorized as Food additives where the physically modified starches (pre-cooked) can be used and labeled as clean label food ingredients.

Resistant Tapioca Starch is a prebiotic that contributes to daily fiber intake and gut health. Resistant starch doesn't get processed by the stomach and small intestine due to which it doesn't raise glucose levels. As the fibers ferment they act as a prebiotic and feed the good bacteria in the gut.

Tapioca Fiber is a versatile ingredient used to prepare gluten and grain-free dishes, desserts and puddings, as a thickener in soups, sauces, and gravies and a binding agent to improve texture and moisture content in plant-based burgers.

Cassava Flour, used as non-GMO and non-allergy source for wheat flour in baking applications like tortillas, cub cakes, bread, puddings, and gravies. Tapioca flour outperforms tapioca starch in achieving smooth and fiber rich products.

Tapioca Pearls are balls, offered in different sizes and colors, that are edible translucent spheres. They originated as a cheaper alternative to pearl sago in Southeast Asian cuisine. The big size pearls are used for the famous bubble tea where the smaller sizes are used as inclusion for puddings.

OTHER STARCHES

Native Corn Starch, used as bulking agent, canning, herb & spice carrier, chemicals, chewing gum, condiments, confectionery, cosmetics, dehydrated foods, dry mixes, food powders, gravies, and pharmaceuticals

Modified (Waxy) Corn Starch, are used to increase their stability of corn starch against excessive heat, acid, shear, time, cooling, or freezing. Typical applications are sauces, dressings, gravies, canned foods, and dairy desserts.

Native Pea Starch, a unique starch produced from yellow peas that performs well to produce vermicelli. On many occasions, it is used in combination with High Viscosity Potato Starch to produce noodles.

Native Mung Bean Starch is a starch made by extracting the starch out from mung beans. The product is mainly produced in Asia and is often used to produce the traditional glass noodles or vermicelli.

Native Fava Bean Starch is a non-GMO and gluten free starch that has the typical properties of vegetable starches. Fava bean starch has good water absorption and gelling properties. Fava bean starch is, like pea starch, used in applications like glass noodles.

Rice Starch, commonly used in the food industry, is a unique in its starch granule size and molecular structure of both its amylose and amylopectin. The small granule size in combination with its neutral taste and white color, makes rice starch very popular as whitening and smoothening agent in confectionery coatings of chocolate lentils, liquorice and chewing gum, and bakery icings and fillings. As natural ingredient rice starch can replace titanium dioxide, being a commonly used additive in the food industry as whitening agent.