

## CRISPIOCA™

**Description:** Pregelatinized, modified food starch refined from tapioca

**Appearance:** Fine white/creamy powder

Features	Benefits
Pregelatinized food starch	Develops high viscosity in cold-formed snacks, thereby improving machinability (particularly in low shear extruded snacks).
Excellent expansion	Suited to a wide range of pellet snacks, hot air expanded and low shear extruded snacks. Particularly suitable for sheeted baked and pan-coated snacks where high expansion improves texture and hence consumer preference.
Unique water management properties	Provides uniform moisture equilibrium in baked goods.
Good oil absorbing properties	Improves performance and stabilisation of seasonings and spice blends.

### APPLICATION AND USAGE INFORMATION

#### Application Summary:

CRISPIOCA is a pregelatinized food starch designed as a general texturing agent for a wide range of snacks, as functional filler with good oil absorbing properties for sweet and savoury flavour or spice blends and as a water management agent for baked goods.

#### Typical applications include:

**Snacks in general:** CRISPIOCA has been designed to improve texture and appearance (degree of expansion) for many types of snacks. It offers good expansion properties and mouthfeel improvements. For similar applications BAKA-SNAK E, based on waxy maize, can also be used but will provide less crunchiness in the final product. For direct expanded snacks produced by HTST (high temperature, short time) extrusion, modified starches like CLEARJEL A may be preferred to create the required light texture and expansion. Where improved crunchiness is desired, then products such as NOVELOSE 330 and CRISP FILM should be evaluated.

**Low shear extruded snacks:** CRISPIOCA improves the dough rheology for cold-formed snacks which leads to better cutting performance at the die.

**Sheeted baked snacks:** CRISPIOCA is ideal for three dimensional crackers (including the new generation of low fat snacks). Dough laminating will be obsolete and good expansion will be achieved even at lower baking temperatures. When high concentrations of potato granules and flakes are used, expansion can be achieved at a lower temperature which helps to avoid off-flavours through too high baking temperatures.

**Hard dough biscuits / crackers:** CRISPIOCA improves overall textural properties and reduces the problematic "doughy" mouthfeel sensation. For crackers CRISPIOCA should be added during the second mixing step.

**Cakes, fine patisserie and related products:** For moisture management and dough / batter rheology during baking CRISPIOCA will increase the viscosity and help to ensure good moist eating properties in the final product. For specific enhancement of the freshness perception, INSTANT PURE-FLO F is highly recommended.

**Seasonings / spice blends:** The neutral taste of CRISPIOCA and the good oil absorbing properties provide additional performance and stabilisation to a wide range of flavours, seasonings and spice blends.

Effective Date: 01.10.2012 [1]

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**Usage Information:**

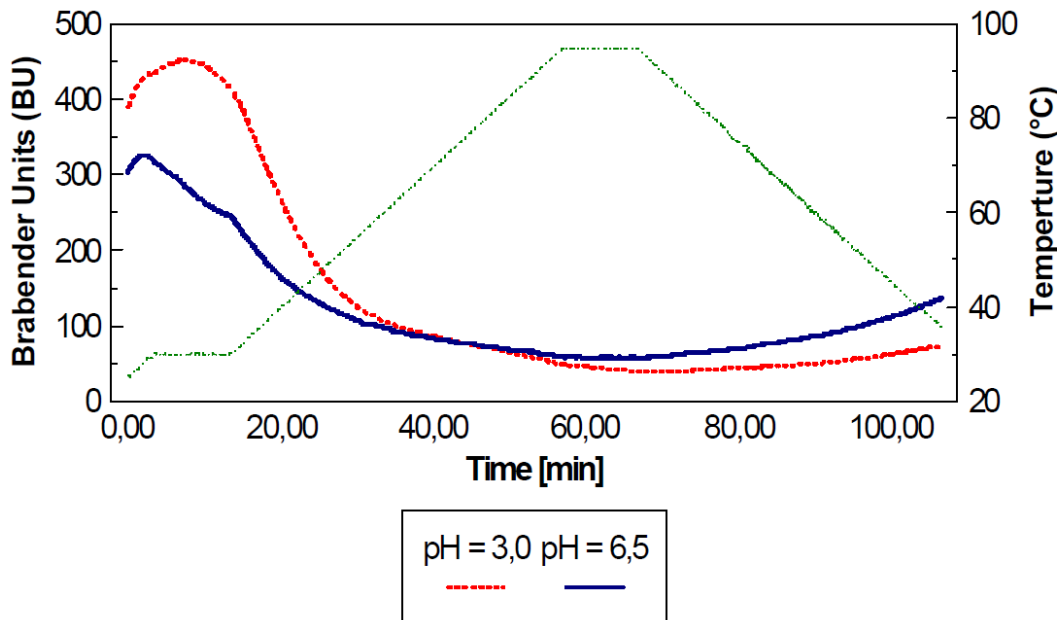
CRISPIOCA will begin to increase the viscosity when added to a dough or batter system. It is recommended that instant starches such as CRISPIOCA are pre-blended with flour or other dry ingredients before being mixed to a dough or batter system in order to prevent lumping. Typical usage levels in snacks would be approx. 2 to 15%. Typical usage levels in cakes and related products would be approx. 1 to 3 %.

**Label declaration recommendation:** Modified Starch

**EU Classification:** Food Ingredient

**ADDITIONAL TECHNICAL INFORMATION**

Typical Brabender Viscograph E profile by CML B272/B273 test (4.6% starch, pH=6.5/3.0, 95°C max. temp.):



Please note: This graph shows a typical Brabender viscosity of CRISPIOCA and can be used for comparative purposes. However, it is not part of the specification.

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