



Appealing clean label confectionery coatings.

All natural, no additives, no preservatives, organic... all the right buzz words to catch consumers attention these days. Over the last decade, there has been a clear trend in cleaner label product launches and the enormous market pull for clean labels in all global regions shows no sign of abating. In confectionery specifically, some additives are coming under severe pressure, and titanium dioxide is one of them.

BENEO regular rice starch contributes to a high level of whiteness in many kinds of confectionery coatings (chewing gums, hard candy, liquorice or chocolate lentils). Being a clean label whitening agent makes it the perfect healthy alternative to titanium dioxide. Thanks to its very small granule size, our rice starch also easily smoothens the rough surfaces of confectionery centres during the coating process.



Challenges of confectionery with titanium dioxide:

- Commonly used colouring agent (whitener) in confectionery coatings
- White pigment with high brightness and refractive index
- Low dosage level (0.5-1%)

BUT

- Ingredient list: food additive, declaration as colouring agent (INS 171)
- Inhalation of titanium dioxide dust has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans. (▶ health hazard for workers)



BENEO offers the clean label solution with Remy B7 - native rice starch

- Very fine granule size (2-8 micron) (=smoothing effect)
- Smooth granule surface
- Good adhesion
- Imperceptible in the mouth
- Equal colour distribution
- Natural whiteness (=whitening effect)
- Declaration as "(rice) starch" (=clean label)

Tested & approved: recipe for coating solutions.

For this test, the pure liquorice center was covered with a sugar coating, where in the recipe the titanium dioxide was replaced with a native rice starch, Remy B7.

Ingredients (%)	Reference	Test
Sucrose	60.0	60.0
Gum Arabic (50% DS)	1.0	1.0
Titanium dioxide	1.0	-
Remy B7	-	5.0-10.0
Water	up to 100	up to 100

Process used:

- Heat up water to 70°C (158°F) and dissolve the sugar while stirring
- Add gum Arabic solution and continue stirring
- When the solution is at 60°C, add Remy B7
- Use high shear device to properly dissolve Remy B7
- Apply coating mixture
- (dusting powder= icing sugar)

Results achieved:

As the below photo's clearly show, Remy B7 has an effective impact on the smoothness and whiteness of the coating. The ratio in the formula can be adapted to achieve the desired coating quality.

Figure 1: Coated confectionery with resp. 10.0%; 5.0% and 0.5% Remy B7 in coating solution



10% Remy B7 in coating solution



5% Remy B7 in coating solution



0.5% Remy B7 in coating solution

What are the benefits?

- Smooth and white confectionery coating
- “clean label” ingredient solution
- Reduction of drying time during the coating process increasing production capacity
- No impact on sensorial properties of the final product
- Opportunity to use on top **Remyline AX FG P**, a precooked native rice starch, for its adhesive properties as an alternative for gum Arabic

BENEO's Technology Center has further developed a variation of high quality coating solutions for natural, clean label reformulations in a multitude of confectionery applications. Our experts are keen to share their insights upon request.

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