PRODUCT FORMULATION

NutraSweet® in Cough Lozenges & Bulk Fiber

ADVANTAGES OF NUTRASWEET® IN PHARMACEUTICALS

- Adds clean, sweet taste
- Provides sweetness at low concentrations
- Is non-cariogenic
- Is an acceptable sweetener enjoyed by diabetics
- Has extended sweetness duration
- May enhance and extend certain fruit flavors
- May mask bitterness
- May reduce packaging sizes

WORKING WITH NUTRASWEET® IN PHARMACEUTICALS

- For uniform distribution, preblending with a portion of a major ingredient is recommended
- In cough lozenges, add to the cooked syrup along with other ingredients (e.g., flavor and color) or add in the form of an oil suspension
- Continuous and batch systems can be used when making cough lozenges

TYPICAL FORMULA FOR COUGH LOZENGES MADE WITH NUTRASWEET®

Ingredient	%
Hydrogenated starch hydrolysate	98.89
Corn oil	0.60
NutraSweet® brand sweetener	**0.20**
Menthol	0.17
Eucalyptus oil	0.14
	100.0%

Flavors may be added if desired.

Dosage: Each 3.7 g of cough lozenge contains not less than 6.1 mg of menthol

PROCESS DESCRIPTION FOR COUGH LOZENGES MADE WITH NUTRASWEET®

1. Precook liquid hydrogenated starch hydrolysate in a precooker to about 245°F (118°C).
2. Pump the precooked hydrogenated starch hydrolysate through a cooking unit and cook to about 295°F (146°C). Final cook temperature will vary with the type of hydrogenated starch hydrolysate.
3. Drain the cooked syrup into a vacuum chamber to decrease moisture content to about 1.5%. Finished product moisture will depend on the type of hydrogenated starch hydrolysate and the cook process used.
4. Mix the cooked syrup with NutraSweet® dispersed in corn oil and remaining ingredients in an in-line mixer (temperature 265°-290°F or 129°-143°C).
5. Temper product on a tempering band, form into a rope, and die cut into desired form. Cool to room temperature.

TYPICAL FORMULA FOR BULK FIBER LAXATIVE MADE WITH NUTRASWEET®

Ingredient	%
Psyllium seed husks	97.44
Mannitol*	2.17
NutraSweet® brand sweetener	**0.39**
	100.0%

*May substitute sorbitol

Dosage: 3.5 g in 8 fl. oz. of cold water
Each dose contains 3.4 g of psyllium

PROCESS DESCRIPTION FOR BULK FIBER LAXATIVE MADE WITH NUTRASWEET®

1. Weigh ingredients to proper amounts conforming to ratios shown in formulas and desired batch size.
2. Blend the NutraSweet® brand sweetener with a portion of the psyllium husks. Mark the blend as Product (in process) A.
3. Dissolve the mannitol in distilled water to produce a 10% weight/volume solution. Mark the solution as Product (in process) B.
4. Load the bowl of a fluidized bed spray agglomerator with the rest of the psyllium husks and Product (in process) A.
5. Secure and energize the fluidized bed spray agglomerator and agglomerate the bed with the mannitol solution marked Product (in process) B.
6. Screen the dried agglomerate and package in airtight containers.

MORE INFORMATION IS AVAILABLE TO YOU

This bulletin is intended to be general in nature. We are eager to work with you in the development of new products and processes. For additional information about our products, please call **1-800-323-5321 (USA/Canada)**

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Visit our website at www.nutrasweet.com

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