



NOVATION® 9330 34121303 (formerly 34121302)

NOVATION® 9330 functional native starch is the certified organic tapioca-based starch that is recommended for high temperature and shear food processing. It is ideally suited for use in dairy applications. Functional native starches are made with revolutionary technology that allows native starches to withstand the rigors of food processing and preparation without breaking down and losing viscosity and textural integrity. This product is produced under Ingredion Incorporated's TRUETRACE® Identity Preserved Program for non-GM products.

Chemical and Physical Properties

	Min.	Max.
Moisture %	-	15.0
pH (20% w/w slurry)	5.0	6.5
Viscosity (CML-M107P2) End, MVU	200	700

Physical Appearance

	Typical
Color	White to Off-White
Form	Fine Powder

Screen Test

	Typical
% thru U.S.S. #100	>95
% thru U.S.S. #200	>85

Microbiological Limits

	Max.
Total Plate Count/g	10,000
Yeast/g	200
Mold/g	200
<i>E. coli</i>	Negative
<i>Salmonella</i>	Negative
Meets NFPA specification for thermophilic bacteria.	

Nutritional Data/100 g

	Typical
Calories	359
Calories from fat	0
Total Fat, g	<0.1*
Cholesterol, mg	0
Sodium, mg	34
Total Carbohydrate, g	89.7
Dietary Fiber, g	0
Total Sugars, g	0
Added Sugars, g	0
Other Carbohydrate, g	89.7
Protein, g	<0.1*
Vitamin D, mcg	0
Calcium mg	41
Iron, mg	0.2
Potassium, mg	<20*
Ash, g	<0.1*

* Not present at level of quantification

Certification

Kosher pareve
Halal

Packaging and Storage

NOVATION® 9330 functional native starch is packaged in multi ply kraft paper bags with a net weight of 55 lbs. NOVATION® 9330 functional native starch should be stored in a clean, dry area at ambient temperature and away from heavily aromatic material.

Shelf Life

The best before date for NOVATION® 9330 functional native starch is 24 months from the date of manufacture.

Regulatory Data

Source	Organic Tapioca
CAS No.	9005-25-8

United States

Meets FCC (Food Chemical Codex) requirements.
Meets National Organic Program (NOP) standards.
Labeling Organic Tapioca Starch

Canada

CFDA Regulation Unstandardized Food
Labeling Organic Tapioca Starch

Features and Benefits

NOVATION® 9330 functional native starch has excellent process tolerance. It performs in food processes where traditional native starch cannot be used as a viscosifier or stabilizer. As a tapioca-based product, NOVATION® 9330 functional native starch features a lower hot viscosity which can be an advantage when using processing equipment such as plate heat exchangers. NOVATION® 9330 functional native starch is compatible in the same food processes where modified starches are currently used. No special preparation or equipment is needed to use this starch. When NOVATION® 9330 functional native starch is cooked, it imparts a smooth short texture and sets to a tender gel upon cooling. Because the textural properties closely resemble modified starches, only minor adjustments in formulation are necessary to replace modified tapioca starches. NOVATION® 9330 functional native starch features the inherent bland flavor of tapioca starches and the unique flavor release characteristic of NOVATION® functional native starches. Products formulated with NOVATION® 9330 functional native starch have improved mouthfeel and brighter flavors than the same systems formulated with many modified or native starches. This product is produced under Ingredion Incorporated's TRUETRACE® Identity Preserved Program for non-GM products.

Effective Date: July 1, 2020

Next Review Date: July 1, 2023

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