

Galactooligosaccharides Powder



Our **galactooligosaccharides (GOS) powder** is a high-purity, soluble prebiotic fiber produced through enzymatic transgalactosylation of **lactose** (from milk) or **plant-derived lactose analogs** (for vegan options). With $\geq 90\%$ total GOS content (on dry solids basis), it selectively nourishes beneficial gut bacteria—especially *Bifidobacteria* and *Lactobacilli*—to support digestive health, immune balance, and overall wellness.

Recognized by EFSA, FDA, and Codex as a safe and effective prebiotic, our GOS is ideal for clean-label, non-GMO, and functional food applications requiring verified gut-health benefits.

What Is GOS?

Galactooligosaccharides are short-chain carbohydrates composed of 2-8 galactose units, typically derived from lactose. Our **GOS powder** is manufactured using food-grade β -galactosidase enzymes under controlled conditions, followed by gentle purification and spray-drying—without chemical solvents, synthetic additives, or animal testing.

We offer two sourcing options to meet diverse market needs:

- **Dairy-based:** From milk lactose (contains trace dairy; not vegan)
- **Vegan/Plant-based:** From bio-fermented glucose or sucrose via microbial synthesis (dairy-free, suitable for vegan & allergen-sensitive applications)

Please specify your preferred source when ordering.

Key Functional & Health Benefits

- **High prebiotic efficacy:** Clinically shown to increase bifidobacteria within days
- **Low sweetness:** ~30% of sucrose—ideal for low-sugar formulations
- **Excellent solubility:** Fully soluble in cold water (>70% w/w)
- **Heat & acid stable:** Suitable for pasteurization, UHT, baking, and acidic beverages
- **Zero glycemic impact:** Does not raise blood glucose or insulin levels
- **Non-cariogenic:** Does not contribute to tooth decay
- **Synergistic with probiotics:** Enhances survival and activity of live cultures

Technical Specifications

Parameter	GOS Powder
Source Options	Dairy lactose or plant-based (vegan)
Appearance	White to off-white free-flowing powder
Odor & Taste	Mild, slightly sweet
Total Galactooligosaccharides (GOS)	≥90% (dry basis, HPAEC-PAD method)
Moisture Content	≤5.0%
pH (10% solution)	5.5 - 7.0
Bulk Density	0.50 - 0.70 g/mL

Parameter	GOS Powder
Solubility	> 70 g/100 mL at 25°C
Ash Content	≤1.0%
Residual Lactose (Dairy Version)	≤3.0%
Residual Sugars (Glucose + Galactose)	≤5.0%
Shelf Life	24 months (stored sealed in cool, dry conditions)
Heavy Metals (Maximum Limits)	
- Lead (Pb)	≤0.1 mg/kg
- Arsenic (As)	≤0.1 mg/kg
- Cadmium (Cd)	≤0.05 mg/kg
- Mercury (Hg)	≤0.01 mg/kg
Microbiological Criteria	
- Total Plate Count	≤1,000 CFU/g
- Yeast & Mold	≤100 CFU/g
- <i>Escherichia coli</i>	Absent in 10 g
- <i>Salmonella</i> spp.	Absent in 25 g
- <i>Listeria monocytogenes</i>	Absent in 25 g
Allergen Status	Dairy version: Contains milk (not vegan) Plant version: Dairy-free, gluten-free, soy-free, nut-free

Parameter	GOS Powder
Certifications	Non-GMO Project Verified, Kosher, Halal (available), Gluten-Free Certified (plant version), Vegan Certified (plant version)

Analytical methods: HPAEC-PAD (High-Performance Anion-Exchange Chromatography with Pulsed Amperometric Detection) per ISO 19262. Complies with FDA GRAS notices, EU Novel Food regulations, and Codex Stan 290.

Applications

- **Infant Formula & Toddler Nutrition:** Mimics human milk oligosaccharides (HMO-like effect); approved in EU, US, and Asia
- **Functional Dairy & Alternatives:** Added to yogurts, kefir, and plant-based milks to boost prebiotic content
- **Dietary Supplements:** Standalone prebiotic or combined with probiotics (synbiotics)
- **Bakery & Cereals:** Stable during baking; enhances fiber claims without off-flavors
- **Beverages:** Clear solubility in juices, smoothies, and RTD wellness drinks
- **Medical & Clinical Nutrition:** Supports gut barrier integrity in enteral formulas

Why Choose Our GOS?

We partner with dairies and fermentation facilities that adhere to strict traceability and sustainability standards. Our production avoids harsh chemicals, irradiation, or GMO enzymes—ensuring a pure, efficacious prebiotic that aligns with global clean-label and regenerative agriculture trends.

Every batch includes full documentation: Certificate of Analysis (CoA), Allergen Statement, Vegan Certification (if applicable), and Safety Data Sheet (SDS).

Available packaging:

- 10 kg or 25 kg multi-wall paper bags with food-grade PE liner
- 500 kg–1,000 kg FIBCs for industrial users
- Custom packaging available upon request

FAQs

Q: Is GOS safe for infants?

A: Yes! GOS is GRAS-approved and mimics HMOs in breast milk, supporting infant gut health.

Q: Can GOS replace FOS in formulations?

A: Absolutely—GOS has superior bifidogenic effects and better tolerance in sensitive individuals.

Q: Does heat processing destroy GOS?

A: No! It remains stable up to 160°C, making it suitable for baked goods and UHT-treated products.

Q: Is this product vegan-friendly?

A: Yes—sourced from plant-based lactose alternatives (e.g., beet sugar-derived).

Q: Do you offer private labeling?

A: Yes! Custom branding and packaging available for bulk orders.

Packing

For more information, please visit our website:

<https://www.bio-starch.com/products/galactooligosaccharide/>