Xylitol Product Specification Sheet

Xylitol is a natural functional sugar alcohol derived from plant fibers such as corn cobs and bagasse. As a food additive (sweetener), it is produced with xylose as the intermediate through catalytic hydrogenation, refining and crystallization. It has a sweetness level close to sucrose, featuring low calorie and low GI value. Suitable for sugar-controlled groups, it is widely applied in food, oral care, pharmaceutical and other fields.

1. Basic Information

- **Chinese Name**: Xylitol (Pentitol)
- **English Name**: Xylitol
- **CAS Number**: 87-99-0
- **INS Number**: 967
- **CNS Number**: 19.007
- **UN No.**: None (Non-dangerous Goods)
- **Product Type**: Food Additive (Sweetener), Low-calorie Functional Sugar Alcohol
- **Executive Standards**:
  GB 1886.234-2016, GB 2760-2024, US FDA GRAS, EU E967, JECFA, FCC
- **Production Process**:

Taking plant fibers including corn cobs, bagasse and birch as raw materials, xylose is extracted by hydrolysis, then processed into high-purity crystalline products via catalytic hydrogenation, refining, crystallization, drying and screening.

2. Appearance & Sensory Characteristics

- **Appearance & Properties**: White crystalline powder / granules, no visible impurities to the naked eye, good fluidity, not easy to absorb moisture and agglomerate
- **Odor & Taste**: Pure sweet taste, no peculiar odor or off-flavor, cool sensation on the palate, no after-bitterness or metallic taste
- **Solubility**: Highly soluble in water (approx. 164 g/100 mL at 20°C), slightly soluble in ethanol, clear and transparent aqueous solution
- **Sweetness Property**: Approximately 100% sweetness of sucrose, similar sweetness curve to sucrose, capable of replacing sucrose at a 1:1 ratio
- **Calorie Value**: About 10 kJ/g (2.4 kcal/g), lower than sucrose, classified as a low-calorie sweetener
- **GI Value**: ≈7, low glycemic index, does not stimulate excessive insulin secretion, suitable for sugar-controlled groups and diabetics
- **Stability**: High temperature resistance (≥160°C), acid and alkali resistance, low browning tendency, suitable for baking, cooking and various processing technologies

3. Physical & Chemical Specifications

Item	Standard Requirement
Xylitol Content (Dry Basis, HPLC)	≥98.5%
Moisture (Loss on Drying)	≤0.5%
Ash Content (Residue on Ignition)	≤0.1%
pH Value (10% Aqueous Solution)	5.0–7.0
Reducing Sugar (Calculated as Glucose)	≤0.2%
Heavy Metals (Calculated as Pb)	≤1.0 mg/kg
Total Arsenic (As)	≤0.5 mg/kg
Cadmium (Cd)	≤0.1 mg/kg
Mercury (Hg)	≤0.05 mg/kg

4. Microbiological Limits

Item	Standard Requirement
Total Aerobic Bacterial Count	≤1000 CFU/g (NHC of PRC)
Coliform Bacteria	≤0.3 MPN/g (NHC of PRC)
Molds and Yeasts	≤50 CFU/g (NHC of PRC)
Salmonella	Not Detected / 25g
Staphylococcus Aureus	Not Detected / 25g

5. Safety & Compliance

- **China**:

  Approved by GB 2760-2024, allowed for appropriate use in all types of food according to production demands with no daily intake limit

- **Unsuitable Crowds**:

  Infants under 2 years old (low intestinal tolerance), patients with irritable bowel syndrome (bloating caused by excessive intake)

- **International Recognition**:
  - United States: FDA GRAS certified, permitted to claim "caries prevention and beneficial to dental health"
  - European Union: Approved by EFSA safety assessment, E967 numbered, applicable to all food categories
  - JECFA (FAO/WHO): No restricted ADI value, fully recognized for safety
  - Canada, Australia & New Zealand, Japan and other regions: Approved as a food sweetener

- **Label Statement**:

  Marked as "Xylitol"; prohibited for infant food; allowable claims: "low calorie, low glycemic index, caries prevention"

6. Packaging & Storage

- **Packaging**:

  25 kg per fiber drum (lined with food-grade PE bag); customized small packages of 1 kg/5 kg/10 kg available

- **Storage Condition**:

  Store in a cool, dry and ventilated place, avoid direct sunlight and damp environment, relative humidity ≤65%

- **Shelf Life**:

  24 months (unopened and stored under specified conditions)

- **Transportation**:

  Shipped as ordinary food, protected from rain, moisture and damage; mixed transportation with toxic and harmful substances is strictly prohibited

7. Application Fields

- **Sugar-free Food**:

  Sugar-free biscuits, sugar-free pastries, sugar-free yogurt, sugar-free ice cream, meal replacement food

- **Candy & Snacks**:

  Hard candy, soft candy, chocolate, chewing gum, energy bars, compressed candy (caries prevention)

- **Functional Food**:

  Sugar-control food, sports nutrition products, health food for middle-aged and elderly people, ketogenic supplementary food

- **Oral Care Products**:

  Toothpaste, mouthwash, oral spray (inhibiting oral bacteria and preventing dental caries)

- **Pharmaceutical Excipients**:

  Medicinal sweetener, flavor corrective for tablets/granules, humectant and filler

- **Daily Chemical & Cosmetics**:

  Moisturizing cream, toner, toothpaste, mouthwash (moisturizing, bacteriostasis and taste improvement)

8. Core Advantages

- **Natural Origin**:

  Derived from plant raw materials such as corn cobs and bagasse, natural sugar alcohol without artificial synthesis

- **Low Calorie & Low GI**:

  Calorie content is only about 60% of sucrose, GI≈7, ideal for sugar control, fat loss and diabetic populations

- **Caries Prevention**:

  Cannot be fermented by oral bacteria to produce acid, inhibits dental plaque formation and reduces tooth decay risk

- **Excellent Taste**:

  Equivalent sweetness to sucrose with a cool mouthfeel and no unpleasant aftertaste, optimizing product flavor

- **Processing Compatibility**:

  High temperature resistance, acid & alkali resistance, anti-browning and good fluidity, compatible with baking, beverage, candy and all food categories

- **Mild Metabolism**:

  Natural metabolic intermediate in human body, promotes calcium absorption and delivers better intestinal tolerance than most sugar alcohols

9. Quality Assurance

- **Batch COA Provision**:

  Complete Certificate of Analysis supplied for each batch, covering full physical, chemical and microbiological test data

- **Production System Certification**:

  Compliant with HACCP, ISO 22000 and FSSC 22000 food safety management standards

- **Authoritative Certifications Available**:

  Non-GMO, Halal and Kosher certification documents can be provided

- **Full-cycle Quality Traceability**:

  Whole-process quality control from raw materials to finished products, stable batch performance and controllable product quality

Xylitol Nutrition Facts

Nutrition Facts (Per 100 g)

Item	Per 100 g	Nutrient Reference Value % (NRV%)
Energy	100 kJ	1%
Protein	0 g	0%
Fat	0 g	0%
Carbohydrates	98.5 g	33%
— Including: **Xylitol (Sugar)**	≥98.5 g	—
Dietary Fiber	0 g	0%
Sodium	0 mg	0%

Labeling Specifications

1. **Nutrition Facts Labeling**: Strictly follow the above format in accordance with GB 28050-2025; energy calculated at 10 kJ/g with compliant NRV% marking.
2. **Warning Labeling**: Mark obvious warning statements (font size ≥ 1/2 of product name): Unsuitable for infants under 2 years old.
3. **Compliance Statement**: This product complies with GB 1886.234-2016 and GB 2760-2024, and can be appropriately used as a food sweetener per production requirements.
4. **Product Naming**: Mark both Chinese "木糖醇" and English "Xylitol", clearly indicate "crystal grade" and purity ≥98.5 g/100 g.
5. **Claim Regulations**: Permitted claims: "low calorie, low glycemic index, caries prevention"; medical efficacy claims (e.g., blood sugar reduction, weight loss, disease treatment) are prohibited.

Key Notes

1. **NRV% Calculation**: Based on GB 28050-2025; energy NRV=8400 kJ, carbohydrate NRV=300 g; xylitol energy coefficient: 10 kJ/g.
2. **Carbohydrate Labeling Logic**: Xylitol belongs to sugar alcohol carbohydrates and is included in total carbohydrates; it does not cause rapid blood sugar elevation, allowing "sugar-free / low-sugar" labeling.
3. **Metabolic Characteristics**: Approximately 50% absorbed in the small intestine after intake, and the remaining part fermented in the large intestine with mild metabolism and low accumulation risk.
4. **Export Labeling**: Supplement corresponding compliance marks for overseas markets (e.g., FDA GRAS, EU E967, JECFA certification).