Polydextrose Specification Sheet

1. Basic Product Information

- Chinese Name: 聚葡萄糖
- English Name: Polydextrose
- CAS No.: 68424-04-4 (WHO)
- INS No.: 1200 (WHO)
- CNS No.: 20.022
- UN No.: Not applicable (non-dangerous goods)
- Product Type: Food additive (thickener, bulking agent, humectant, stabilizer) / Soluble dietary fiber
- Compliance Standards: GB 1886.385-2025, JECFA, USP, FCC
- Production Process: A randomly cross-linked polymer produced by high-temperature melt polycondensation of approximately 90% D-glucose, 10% D-sorbitol, and 1% citric acid (or 0.1% phosphoric acid), mainly linked by 1,6-glycosidic bonds

2. Product Classification and Appearance

2.1 Solid Polydextrose (Powder / Granular)

- Appearance:
  White to slightly yellowish powder or granules, free of visible impurities
- Odor: Odorless,
  slightly acidic taste
- Solubility:
  Freely soluble in water, insoluble in ethanol

2.2 Liquid Polydextrose (Neutralized & Decolorized Type)

- Appearance:
  Slightly yellow to yellow viscous transparent liquid
- Odor:
  No off-odors
- Solubility:
  Miscible with water in all proportions

3. Physicochemical Indicators (on dry / ash-free basis)

3.1 Core Content Indicators

Item	Solid Product Specification	Liquid Product Specification
Polydextrose Content	≥90.0%	≥90.0%
1,6-Anhydro-D-glucose	≤4.0%	≤4.0%
Free Glucose + Sorbitol	≤6.0%	≤6.0%
5-Hydroxymethylfurfural (5-HMF)	≤0.1%	≤0.05%

3.2 Physicochemical Properties

Item	Solid Product Specification	Liquid Product Specification
pH (10% aqueous solution)	2.5–7.0	5.0–6.0
Loss on Drying	≤4.0%	–
Total Ash	≤0.3%	≤2.0%
Lead (Pb)	≤0.5 mg/kg	≤0.5 mg/L
Arsenic (As)	≤0.5 mg/kg	≤0.5 mg/L
Upper Molecular Weight Limit	<22,000 Da	<22,000 Da
Average Molecular Weight	Approx. 3,200 Da	Approx. 3,200 Da

4. Microbiological Indicators

Item	Specification
Total Plate Count	≤1,000 CFU/g
Coliforms	≤30 MPN/100g
Molds	≤25 CFU/g
Yeasts	≤25 CFU/g
Salmonella	Absent in 25g
Staphylococcus aureus	Absent in 25g

5. Functional Properties and Applications

5.1 Core Functions

- Source of dietary fiber: Soluble dietary fiber, eligible for labeling “High in Dietary Fiber”
- Low calorie: Caloric value approx. 1 kcal/g, 1/4 that of sucrose
- Prebiotic effect: Promotes proliferation of intestinal probiotics and improves intestinal function
- Processing stability: Acid-resistant, heat-resistant, freeze-tolerant, suitable for diverse food processing scenarios

5.2 Application Areas

- Food: Bakery, beverages, dairy products, confectionery, meal replacements, sugar-free foods
- Health supplements: Dietary fiber supplements, intestinal health products
- Pet food / Feed: Dietary fiber fortification, intestinal health regulation

6. Packaging and Storage

- Packaging: Food-grade kraft paper bag / aluminum foil bag / plastic drum with PE liner; liquid product packaged in food-grade stainless steel or plastic drums
- Storage: Sealed, protected from light, dry and cool conditions (temperature ≤25℃, relative humidity ≤65%)
- Shelf life: 24 months for solid products; 12 months for liquid products (unopened)

7. Safety and Compliance

- ADI: 0–70 mg/kg bw (JECFA, WHO)
- Global compliance: Approved for use in over 50 countries/regions including the US FDA, EU, and China
- Compliance Statement: This product complies with international standards including GB 1886.385-2025, JECFA, USP, FCC, and is suitable for use in food, health supplements and other fields.

Nutrition Facts of Polydextrose

(per 100g, on dry basis)

Item	Content (per 100g)	NRV%
Energy	1.0–1.5 kcal/g (100–150 kcal/100g)	5–8%
Protein	≤0.5 g	≤1%
Fat	≤0.1 g	≤0.2%
Total Carbohydrate	≤99.0 g	≤37%
— Available Carbohydrates (Sugars)	≤1.0–4.0 g	≤1.5%
— Dietary Fiber (Soluble)	≥90.0–95.0 g	≥360%
Sodium	≤5 mg	≤0.2%
5-HMF	≤0.05–0.1%	—
Moisture	≤4.0%	—

Core References: JECFA, FDA, EU, AOAC, China GB 28050, FCC

Notes

- Energy: Internationally recognized as 1 kcal/g (FDA/EFSA/JECFA)
- Dietary Fiber: Polydextrose = soluble dietary fiber, globally recognized (CAC/CODEX, FDA, EFSA, Health Canada, Ministry of Health, Labour and Welfare of Japan, National Health Commission of the People's Republic of China)
- GI Value: GI ≈ 7 (very low glycemic response)
- GL Value: GL ≈ 1 (negligible glycemic load)

Labeling Instructions

1. Product Name

- Chinese: 聚葡萄糖（水溶性膳食纤维）
- English: Polydextrose (Soluble Dietary Fiber)

2. Nutritional Claims

Low Calorie / High in Dietary Fiber / Soluble Dietary Fiber / Sugar Free (free sugars ≤0.5g)

Fat Free / Low Sodium / Low Glycemic Index / Prebiotic / Non-GMO

Gluten Free / Allergen Free / Non-Irradiated / Vegan /Halal / Kosher (certified)

3. International Standard Functional Claims (Permitted by FDA/EFSA)

- Helps maintain normal intestinal function
- Increases stool volume and promotes intestinal motility
- Low glycemic response, suitable for people managing blood sugar
- Supports weight management (low calorie, high fiber)
- Prebiotic effect supporting healthy gut flora

4. International Compliance Statements

✅ **Compliance Standards**

- International: CAC/GSFA, JECFA, AOAC 2000.11 (National Health Commission of the People's Republic of China)
- US: FDA 21 CFR 172.841 (GRAS), FCC 13, USP
- EU: EU No 231/2012 (E1200), EFSA
- China: GB 1886.385-2025, GB 2760, GB 28050
- Pharmacopoeias: ChP, USP, EP

✅ **Manufacturing Practices:**

cGMP, ISO 9001, HACCP

✅ **Safety Statement:**

Non-GMO, allergen-free, non-irradiated, no solvent residues, compliant heavy metal limits, free of preservatives, colorants and flavors