



KEEP INGREDIENTS CO. LTD

No. 2019, Unit 1, Building 10, Yuexiucheng Phase 1, Guodu Xuefu Street, Chang'an District, Xi'an, Shaanxi,
710119, China

TECHNICAL DATA SHEET

D-Ribose

1. PRODUCT DESCRIPTION

D-Ribose is an important component of nucleic acids. Nucleic acids are the genetic material in living organisms, and D-Ribose plays a pivotal role in the metabolism of nucleoside, protein and fat, with important physiological functions and broad application prospects. As a natural component of living organisms, D-Ribose is present in all cells and is associated with adenosine formation and ATP regeneration. It is one of the most basic energy sources of life metabolism and plays a key role in heart and skeletal muscle metabolism, and it can promote the recovery of ischemic tissue and hypoxic tissue.

D-Ribose is widely used in sports food, functional food, energy food, nutritional supplements and other products. The maximum daily dosage for oral intake is 60 grams; a single dose of less than 10 g does not induce stomach upset. D-Ribose can be used as a raw material for medicines, health care products, intermediates and food additives.

2. PRODUCT INFORMATION

Item	Information
Product name	D-Ribose
Chemical name	D-Ribofuranose
CAS number	50-69-1
Molecular formula	C ₅ H ₁₀ O ₅
Molecular weight	150.13 g/mol
EINECS number	200-059-4
Quality standard	AJI97 (D-Ribose)
Origin / production method	Fermentation method
Appearance	White crystals or crystalline powder; sweet taste
Solubility in water	About 83 g/100 g (25 °C); soluble in water
Melting point	80–90 °C
Shelf life / retest date	Two years from the date of manufacture
Packing	25 kg/drum: inner medicinal PE bag (heat sealed) + aluminium-foil bag (heat sealed); outer fibre drum (400 × 430 mm cylinder)
Storage	Preserve in tight, light-resistant containers at 10–30 °C



3. PRODUCT SPECIFICATION

Item	Specification	Test
Specific rotation [α] _{D20}	–18.0° to –22.0°	AJI TEST 1 (dried sample, C=4, H ₂ O)

Item	Specification	Test
State of solution (transmittance)	Not less than 95.0%	AJI TEST 2 (0.5 g in 10 mL of H ₂ O, spectrophotometer, 430 nm, 10 nm cell thickness)
Heavy metals (Pb)	Not more than 10 ppm	AJI TEST 7 (4.0 g; ref: 2.0 mL of Pb Std., 0.01 mg/mL)
Arsenic (As ₂ O ₃)	Not more than 2 ppm	AJI TEST 8 (1.0 g; ref: 2.0 mL of As ₂ O ₃ Std.)
Other saccharides	Chromatographically not detectable	AJI TEST 9 (test sample 10 µg, A-4-a)
Loss on drying	Not more than 3.0%	AJI TEST 11 (in vacuum, at 60 °C for 3 hours)
Residue on ignition (sulfated)	Not more than 0.2%	AJI TEST 13
Assay	97.0 to 102.0%	HPLC
Aerobic plate count	< 100 cfu/g	—
Pathogenic bacteria	Negative	—

The product is also produced in accordance with GB 1886.141-2016, the China Food Safety National Standard for the food additive d-ribose (see Section 7).

4. PRODUCTION PROCESS

D-Ribose is produced by fermentation. The main process steps (a HACCP flow chart with critical control points) are as follows:

- Raw materials reception (liquid glucose, corn steep liquor, yeast powder, etc.)
- Fermentation culture
- Membrane filtration → ion exchange → concentrating → chromatography → concentrating
- Decolorization → concentrating → dissolving in ethanol → crystallization → centrifugal separation
- Drying → screening (magnet bar) → weighing and packing → metal detection → packaging and storage
- Processing aids: ethanol; activated carbon. Production carried out in a D-grade clean area.

Critical control points (CCPs): CCP1-1 — activated carbon reception; CCP1-2 — ethanol reception; CCP2 — metal detection (Fe ≥ 2.0 mm, non-Fe ≥ 2.0 mm, SUS ≥ 2.5 mm).

5. PHYSIOLOGICAL FUNCTIONS AND APPLICATIONS

- An important component of nucleic acids, the genetic material in living organisms.
- Plays a pivotal role in the metabolism of nucleoside, protein and fat.
- A natural component present in all cells, associated with adenosine formation and ATP regeneration; one of the most basic energy sources of life metabolism.
- Plays a key role in heart and skeletal muscle metabolism and can promote the recovery of ischemic and hypoxic tissue.

Applications: sports food, functional food, energy food and nutritional supplements; raw material for medicines, health care products, intermediates and food additives. Maximum recommended daily oral dose: 60 g; a single dose below 10 g does not induce stomach upset.

6. STORAGE AND TRANSPORTATION

- Store in tight, light-resistant containers at 10–30 °C indoors; avoid wet storage.
- Shelf life / retest period: two years from the date of manufacture.

- Transport: not restricted for land (ADR/RIC), maritime (IMDG) and air (IATA) transport; no UN number assigned (per MSDS).

7. STATEMENTS AND COMPLIANCE

Quality standard. D-Ribose meets the requirements of the AJI97 (D-Ribose) standard, as confirmed by the Certificate of Analysis.

Food additive standard. The product is produced in accordance with GB 1886.141-2016, the China Food Safety National Standard for the food additive d-ribose (per the supplied specification).

Regulatory listing. D-Ribose is a TSCA-listed substance and is registered with EINECS (No. 200-059-4).

Safety classification. Under the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), D-Ribose is not classified as a hazardous substance or mixture and presents no specific hazard.

Transport. Not a hazardous product; no special measures are required for transportation.

Statements are based on the supplied Certificate of Analysis, specification and Material Safety Data Sheet.

8. CERTIFICATE OF ANALYSIS

Certificate of Analysis — Batch KYDR20260071001

Field	Detail
Product name	D-Ribose
Batch No.	KYDR20260071001
Quantity	3,200 kg
Standard	AJI97 (D-Ribose)
Packing	25 kg/drum
Manufacturing date	2026-07-10
Retest date	2028-07-09
Test date	2026-07-12
Report date	2026-07-17

Item	Specification	Result
Description	White crystals or crystalline powder	Conforms
Assay	97.0–102.0	99.3
Loss on drying	≤ 3.0	0.11
Residue on ignition	≤ 0.2	0.05
Specific rotation [α]D20	–22.0° to –18.0°	–20.1°
State of solution (transmittance)	≥ 95.0	99.0
Heavy metals (Pb)	≤ 10	< 5
Arsenic (As2O3)	≤ 2	< 1
Other saccharide (TLC)	Negative	Not detected
Total aerobic plate count	≤ 100	< 10
Pathogenic bacteria	Negative/25 g	Not detected

Conclusion: Meets the requirements of the AJI97 (D-Ribose) standard. Results are transcribed from the Certificate of Analysis issued for the above batch.

This Technical Data Sheet should be read in conjunction with the supplied Certificate of Analysis, Material Safety Data Sheet and specification. The information provided is based on the documents supplied by KEEP INGREDIENTS CO. LTD.

