

TECHNICAL DATA SHEET

3-Hydroxybutanoic Acid Calcium Salt (BHB Calcium)

Calcium β -Hydroxybutyrate | CAS 586976-56-9 | Assay $\geq$ 98%

This Technical Data Sheet is issued by KEEP INGREDIENTS CO. LTD for the evaluation of the product described herein. The supplier and the customer undertake to maintain the CONFIDENTIAL information contained or enclosed in this document.

1. PRODUCT DESCRIPTION & INFORMATION

Product Description

3-Hydroxybutanoic acid calcium salt (BHB calcium, calcium β -hydroxybutyrate) is a white crystalline powder. It is the calcium salt of β -hydroxybutyric acid, a ketone body. The product is obtained by biological fermentation and contains no animal-derived or cell-culture-derived substances.

Product Information

Item	Information
Product name	3-Hydroxybutanoic acid calcium salt (BHB calcium, calcium β -hydroxybutyrate)
Molecular formula	$C_4H_{10}CaO_3$
CAS number	586976-56-9
Assay	$\geq$ 98% (HPLC)
Appearance	White crystalline powder
Particle size	100-325 mesh
Odour	Characteristic
Source	Biological fermentation (no animal-derived or cell-culture substances)
Country of origin	China
Supplier	KEEP INGREDIENTS CO. LTD, Xi'an, Shaanxi, China
Shelf life	24 months

2. PRODUCT SPECIFICATION

2.1 Active Ingredient

Item	Specification	Test Method
3-Hydroxybutanoic acid calcium salt	NLT 98%	HPLC

2.2 Physical Control

Item	Specification	Test Method
Appearance	White crystalline powder	Visual
Mesh	100-325	Visual
Odour	Characteristic	Organoleptic
Loss on drying	NMT 5%	USP <731>
Water	NMT 5%	USP <731>

2.3 Chemical Control

Item	Specification	Test Method
Total heavy metals	NMT 10 ppm	USP <231>
Arsenic (As)	NMT 2.0 ppm	ICP-MS
Mercury (Hg)	NMT 0.1 ppm	AAS
Cadmium (Cd)	NMT 2.0 ppm	ICP-MS
Lead (Pb)	NMT 0.5 ppm	ICP-MS



2.4 Microbiological Control

Item	Specification	Test Method
Total plate count	NMT 1,000 CFU/g	USP <2021>
Yeast, mould & fungi	NMT 100 CFU/g	USP <2021>
Escherichia coli	Negative	USP <2022>
Staphylococcus	Negative	USP <2022>
Salmonella	Negative	USP <2022>

Packing: packed in a food-grade plastic bag inside and an aluminum-foil bag outside, 25 kg/drum.
Storage: store in a well-closed container, away from moisture and direct sunlight. Shelf life: 24 months if sealed and stored properly.

3. CERTIFICATE OF ANALYSIS

Item	Information
Product name	3-Hydroxybutanoic acid calcium salt (BHB calcium)
Batch No.	KYBHB2026050301
Batch quantity	900 kg
CAS number	586976-56-9
Molecular formula	C ₄ H ₁₀ CaO ₃
Reference standard	USP 34
Manufacturing date	May 3, 2026
Expiry date	May 2, 2028
Country of origin	China



Item	Specification	Result	Test Method
3-Hydroxybutanoic acid calcium salt	NLT 98%	98.9%	HPLC
Appearance	White crystalline powder	Conform	Visual
Mesh	100-325	Conform	Visual
Odour	Characteristic	Conform	Organoleptic
Loss on drying	NMT 5%	0.35%	USP <731>
Ash	NMT 5%	0.45%	USP <731>
Total heavy metals	NMT 10 ppm	Conform	USP <231>
Arsenic (As)	NMT 2.0 ppm	< 0.05 ppm	ICP-MS
Mercury (Hg)	NMT 1.0 ppm	< 0.005 ppm	AAS
Cadmium (Cd)	NMT 2.0 ppm	< 0.01 ppm	ICP-MS
Lead (Pb)	NMT 0.5 ppm	< 0.5 ppm	ICP-MS
Total plate count	NMT 1,000 CFU/g	Conform	USP <2021>
Yeast, mould & fungi	NMT 100 CFU/g	Conform	USP <2021>
Escherichia coli	Negative	Conform	USP <2022>
Staphylococcus	Negative	Conform	USP <2022>
Salmonella	Negative	Conform	USP <2022>

Conclusion: The product conforms to the specification. Each batch is tested and released against the above specification. Batch-specific certificates are issued on request.

4. NUTRITIONAL INFORMATION

4.1 Nutritional Composition (per 100 g)

Item	Per 100 g
Energy	0 kcal
Total carbohydrates	0 g
Total fat	0 g
Protein	0 g
Ash	0.33 g
Moisture	0.39 g

4.2 Constituent Content (per 100 g)

Item	Content	Item	Content
Total carbohydrates	0 g	Fat	0 g
Protein	0 g	Dietary fiber	0 g
Vitamin A	0	Vitamin C	0
Vitamin E	0	Vitamin B	0
Calcium (Ca)	12-16 g	Iron (Fe)	0
Zinc (Zn)	0	Copper (Cu)	0



Note: the calcium content is expressed as reported on the supplied nutritional data sheet (12-16 g per 100 g).

5. PRODUCT STATEMENTS & COMPLIANCE

5.1 Allergen Statement

ALLERGEN STATEMENT

The product does not contain cereals containing gluten (wheat, rye, barley, oats, spelt, kamut or their hybridized strains and products thereof), crustaceans, eggs, fish, peanuts, soy, milk (including lactose), nuts, celery, mustard, sesame seeds, sulphur dioxide and sulphites, lupin or molluscs. There is no risk of cross-contamination with these substances during processing.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.2 BSE/TSE Free Statement

BSE/TSE FREE

The product and its raw materials are BSE/TSE free.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.3 Gluten Free Statement

GLUTEN FREE

The product and its raw materials are gluten free.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.4 GMO Free Statement

GMO FREE

The product and its raw materials are GMO free.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.5 Non-Irradiation Statement

NON-IRRADIATION

The product is non-irradiated.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.6 Source Statement

SOURCE STATEMENT

The product is obtained by biological fermentation. It neither contains nor derives from any animal-source products or cell culture. Country of origin: China.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.7 Ingredient Composition Statement

INGREDIENT COMPOSITION

Starting material: 3-Hydroxybutanoic acid calcium salt (99%). Carrier: water 0.5%, ash 0.5%.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.8 GRAS Statement

GRAS

The product is generally recognized as safe (GRAS).

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.9 Vegan & Vegetarian Statement

VEGAN & VEGETARIAN

The product is vegan and vegetarian.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.10 Country of Origin Statement

COUNTRY OF ORIGIN

The product and its raw materials are from China.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

5.11 California Proposition 65 Statement

CALIFORNIA PROPOSITION 65

This product has been evaluated under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). There are no components in this product listed under Proposition 65.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

6. STORAGE & TRANSPORT

Item	Information
Shelf life	24 months if sealed and stored properly.
Storage	Store in a well-closed container, away from moisture and direct sunlight.
Packing	Packed in a food-grade plastic bag inside and an aluminum-foil bag outside, 25 kg/drum.
Transport	Keep the package sealed and dry during transport; avoid exposure to moisture and direct sunlight.

Safety notes: This product is a food ingredient and is not a medicine. Keep out of reach of children. Please refer to the Safety Data Sheet in Section 7 for handling information.

KEEP INGREDIENTS CO. LTD

Authorized signature & company stamp

This Technical Data Sheet is issued by KEEP INGREDIENTS CO. LTD and is valid together with the supplied Certificate of Analysis. The information given is based on our knowledge of the product at the time of publication and is given in good faith; it does not exempt the user from applying the regulations governing the use, storage and labelling of the product in their own country.

7. SAFETY DATA SHEET



7.1 Identification

Item	Information
Product name	3-Hydroxybutanoic acid calcium salt (BHB calcium)
CAS number	586976-56-9
Molecular formula	$C_4H_{10}CaO_3$
Description	White or off-white powder
Supplier	KEEP INGREDIENTS CO. LTD, No. 2019, Unit 1, Building 10, Yuexiucheng Phase 1, Guodu Xuefu Street, Chang'an District, Xi'an, Shaanxi, 710119, China

7.2 Composition / Information on Ingredients

Component	Information
3-Hydroxybutanoic acid calcium salt	Main ingredient ($\geq 98\%$); no dangerous components

7.3 Hazards Identification

Hazard description: not applicable under normal conditions of use. No particular hazards for man and the environment have been identified for this product.

7.4 First-Aid Measures

Route	First-aid measures
Inhalation	Supply fresh air; consult a doctor in case of complaints.
Skin contact	Generally the product does not irritate the skin. Wash with soap and water if contact occurs.
Eye contact	Rinse the opened eye for several minutes under running water; consult a doctor if irritation persists.
Ingestion	Rinse the mouth and consult a doctor if a large quantity is swallowed.

7.5 Fire-Fighting Measures

Item	Information
Suitable extinguishing media	CO_2 , extinguishing powder or water spray. Fight larger fires with water spray of alcohol-resistant foam.
Protective equipment	No special measures required.

7.6 Accidental Release Measures

Item	Information
Environmental protection	No special measures required.
Methods for cleaning / collection	Pick up mechanically, avoiding creating dust. No dangerous substances are released.

7.7 Handling and Storage

Item	Information
Handling	Handle in a well-ventilated area; avoid inhaling dust.
Storage	Keep in a cool, dry place, away from light and heat. Metal containers are not used.
Storage class	No special requirement.

7.8 Exposure Controls / Personal Protection

Item	Information
Personal protective equipment	No special requirement.
Breathing equipment	Common mask.
Protection of hands	Not required.
Eye protection	Not required.

7.9 Physical and Chemical Properties

Property	Value
Form	White or off-white powder
Odour	Characteristic
Moisture	Not more than 5%

7.10 Stability and Reactivity

Item	Information
Thermal decomposition / conditions to be avoided	No decomposition if used according to specifications.
Dangerous reactions	No dangerous reactions known.
Dangerous decomposition products	No dangerous decomposition products known.

7.11 Toxicological Information

Item	Information
Acute toxicity	None.
Skin	No irritant effect on the skin. Inhalation of powder can irritate the respiratory tract.
Eye	No irritant effect.
Sensitization	No sensitizing effects known.
Additional information	When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

7.12 Ecological Information

Item	Information
General notes	Not hazardous to water.

7.13 Transport Information

Item	Information
Transport class	Transported by sea or by air; not classified as dangerous goods under ADR/RID.

7.14 Other Information / Disclaimer

This information is believed to be accurate and represents the best information currently available to us. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. This product is not for human or veterinary clinical (therapeutic) use.

