TECHNICAL DATA SHEET

Magnesium PCA & Sodium PCA

Pyrrolidone Carboxylic Acid (PCA) Salts | White Crystalline Powder

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1. TECHNICAL DATA SHEET

Product Description

This Technical Data Sheet covers two pyrrolidone carboxylic acid (PCA) salts: Magnesium Pyrrolidone Carboxylate (Magnesium PCA) and Sodium Pyrrolidone Carboxylate (Sodium PCA). Both are high-purity (≥ 99%) white crystalline powders used in personal care and cosmetic applications as humectant and moisturizing components. They are non-hazardous substances or mixtures and are not known to be hazardous to water.

Product Information

Item	Information
Product name	Magnesium Pyrrolidone Carboxylate (Magnesium PCA)
Product name	Sodium Pyrrolidone Carboxylate (Sodium PCA)
Product form	White crystalline powder
Purity (assay)	≥ 99%
Country of origin	China
Shelf life	2 years (sealed)
Storage	Cool and dry place, away from direct sunlight and heat; metal containers not used



2. PRODUCT SPECIFICATION

2.1 Magnesium Pyrrolidone Carboxylate (Magnesium PCA)

Item	Specification
Assay (content)	≥ 99%
Appearance	White powder
Odor	Characteristic
Taste	Characteristic
Particle size	100% through 80 mesh
pH value (10% aqueous solution)	6.0 - 8.0
Loss on drying	≤ 3.0%
Residue on ignition	≤ 0.2%
Total heavy metals (as Pb)	≤ 20 mg/kg
Arsenic (As)	≤ 2 mg/kg
Lead (Pb)	≤ 10 mg/kg
Cadmium (Cd)	≤ 2 mg/kg
Mercury (Hg)	≤ 0.1 mg/kg

2.1.1 Microbiological Specifications

Item	Specification
Total plate count	≤ 1000 CFU/g
Yeasts & molds	≤ 100 CFU/g
E. coli	Negative
Salmonella	Negative
Staphylococcus	Negative



2.2 Sodium Pyrrolidone Carboxylate (Sodium PCA)

Item	Specification
Assay (content)	≥ 99%
Appearance	White powder
Odor	Characteristic
Taste	Characteristic
Particle size	100% through 80 mesh
pH value (1% aqueous solution)	6.5 - 8.0
Transmittance (1 cm, 430 nm)	≥ 95.0%
Transmittance (10% aqueous, 430 nm)	≥ 95.0%
Loss on drying	≤ 2.0%
Residue on ignition	45.0% - 49.0%
Total heavy metals	≤ 10 ppm
Arsenic (As)	≤ 2 ppm
Lead (Pb)	≤ 2 ppm

2.2.1 Microbiological Specifications

Item	Specification
Total plate count	≤ 100 CFU/g
Total yeast & mold	≤ 100 CFU/g
E. coli	Negative
Salmonella	Negative
Staphylococcus	Negative



3. CERTIFICATE OF ANALYSIS

3.1 Magnesium Pyrrolidone Carboxylate (Magnesium PCA)

Item	Data
Product name	Pyrrolidone Carboxylate Magnesium (Magnesium PCA)
Batch No.	KYMGP2026032401
Batch quantity	200 kg
Manufacturing date	2026-03-24
Date of certificate	2026-03-26
Conclusion	Conforms to specification

Item	Specification	Result
Assay (content)	≥ 99%	99.15%
Appearance	White powder	Conforms
Odor	Characteristic	Conforms
Taste	Characteristic	Conforms
Particle size	100% through 80 mesh	Conforms
pH value (10% aqueous)	6.0 - 8.0	6.31
Loss on drying	≤ 3.0%	2.01%
Residue on ignition	≤ 0.2%	0.12%
Total heavy metals (as Pb)	≤ 20 mg/kg	1.02 mg/kg
Arsenic (As)	≤ 2 mg/kg	< 0.1 mg/kg
Lead (Pb)	≤ 10 mg/kg	0.75 mg/kg
Cadmium (Cd)	≤ 2 mg/kg	< 0.05 mg/kg
Mercury (Hg)	≤ 0.1 mg/kg	< 0.01 mg/kg
Total plate count	≤ 1000 CFU/g	Conforms
Yeasts & molds	≤ 100 CFU/g	Conforms
E. coli	Negative	Negative
Salmonella	Negative	Negative
Staphylococcus	Negative	Negative



3.2 Sodium Pyrrolidone Carboxylate (Sodium PCA)

Item	Data
Product name	Pyrrolidone Carboxylate Sodium (Sodium PCA)
Batch No.	KYNSP2026020501
Batch quantity	500 kg
Manufacturing date	2026-02-05
Date of certificate	2026-02-08
Conclusion	Conforms to specification

Item	Specification	Result
Assay (content)	≥ 99%	99.12%
Appearance	White powder	Conforms
Odor	Characteristic	Conforms
Taste	Characteristic	Conforms
Particle size	100% through 80 mesh	Conforms
pH value (1% aqueous)	6.5 - 8.0	6.73
Transmittance (1 cm, 430 nm)	≥ 95.0%	97.2%
Loss on drying	≤ 2.0%	0.8%
Residue on ignition	45.0% - 49.0%	47.3%
Transmittance (10% aqueous, 430 nm)	≥ 95.0%	97.8%
Total heavy metals	≤ 10 ppm	Conforms
Arsenic (As)	≤ 2 ppm	Conforms
Lead (Pb)	≤ 2 ppm	Conforms
Total plate count	≤ 100 CFU/g	Conforms
Total yeast & mold	≤ 100 CFU/g	Conforms
E. coli	Negative	Negative
Salmonella	Negative	Negative
Staphylococcus	Negative	Negative



4. PRODUCT CHARACTERISTICS

4.1 Physical and Chemical Properties

Item	Information
Appearance	White crystalline powder
Odor	Characteristic
Assay	≥ 99%
Moisture	Not more than 5%
Stability	No decomposition when used according to specifications; no dangerous decomposition products known

4.2 Hazard & Safety Classification

Item	Information
Hazard classification	Not a hazardous substance or mixture
Dangerous components	None
Ecological	Not known to be hazardous to water
Acute toxicity	None
Skin / eye irritation	No irritant effect on skin; powder inhalation may irritate the respiratory tract



5. APPLICATIONS

Magnesium PCA and Sodium PCA are pyrrolidone carboxylic acid salts widely used in personal care and cosmetic applications as humectant and moisturizing components. As part of the natural moisturizing factor (NMF), they are typically incorporated into skin care and hair care formulations to support skin conditioning and moisture retention.

Field	Typical use
Skin care	Humectant / moisturizing component in creams, lotions and serums
Hair care	Moisture-retaining component in hair care formulations
Personal care	Conditioning and moisturizing additive in a broad range of cosmetics

Note: end-users shall confirm final-formula compliance, appropriate usage dosage and labelling requirements under the regulations of the country of use.

6. PRODUCT STATEMENTS

6.1 Heavy Metals Statement

HEAVY METALS STATEMENT

According to the supplied Certificates of Analysis, the heavy metal content of both products conforms to the specified limits. Magnesium PCA: total heavy metals (as Pb) 1.02 mg/kg, arsenic < 0.1 mg/kg, lead 0.75 mg/kg, cadmium < 0.05 mg/kg, mercury < 0.01 mg/kg. Sodium PCA: total heavy metals, arsenic and lead all conform to the limits (≤ 10 ppm, ≤ 2 ppm, ≤ 2 ppm respectively).

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6.2 Non-Hazardous Classification Statement

NON-HAZARDOUS CLASSIFICATION STATEMENT

Both products are not hazardous substances or mixtures, contain no dangerous components, and are not known to be hazardous to water.

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6.3 Country of Origin

COUNTRY OF ORIGIN

The products are produced and packaged in China. Country of origin: China.

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6.4 Expected Usage

EXPECTED USAGE

The expected usage of these products is their incorporation as humectant and moisturizing components in personal care and cosmetic formulations, subject to the regulations of the country of use.

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7. HANDLING, STORAGE & TRANSPORT

Item	Information
Storage	Keep in a cool and dry place, away from light and heat; metal containers are not used.
Handling	Avoid dust formation and inhalation of powder; use a common dust mask if required.
Transport	Transport by sea or by air; no special dangerous-goods requirements.
Hazard classification	Not a hazardous substance or mixture (no dangerous components).
Shelf life	2 years (sealed, away from direct sunlight).
Packing	According to customer requirements.

Safety notes: These products are cosmetic / personal care raw materials and are not hazardous substances or mixtures. A Material Safety Data Sheet (MSDS) is available upon request. Keep out of reach of children.

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Authorized signature & company stamp

This Technical Data Sheet is issued by KEEP INGREDIENTS CO. LTD and is valid together with the supplied Certificates of Analysis. The information given is based on our knowledge of the products 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 products in their own country. A Material Safety Data Sheet (MSDS) is available upon request.

