# SAFETY DATA SHEET

## PINHONBIO® Ectoin

## 1. Identification

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| **Product identifier** | PINHONBIO® Ectoin |
| **INCI** | ECTOIN |
| **Chemical name** | (4S)-2-methyl-1,4,5,6-tetrahydropyrimidine-4-carboxylic acid |
| **CAS / EC** | 96702-03-3 / 431-910-1 |
| **Recommended use** | Cosmetic raw material for professional formulation |
| **Restrictions on use** | Not for direct consumer use. Finished-product suitability and market compliance must be assessed by the formulator. |
| **Supplier** | Shaanxi Pinhon Biotechnology Co., Ltd. |
| **Address** | Room 704, Unit 2, Building 1, I-Duhui, No. 11 Tangyan South Road, Yanta District, Xi'an, Shaanxi, China |
| **Website** | https://pinhoningredients.com/ |
| **Emergency contact** | Albert Zhao, +86 173 0298 1616; 09:00-18:00 China Standard Time; Chinese/English |

## 2. Hazard Identification

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| **GHS classification** | Not classified as hazardous based on the available information. |
| **Label elements** | No hazard pictogram, signal word or hazard statement required. |
| **Other hazards** | Airborne powder may cause mechanical irritation. Available assessment data indicate low hazard, with slight eye irritation possible. Avoid generating and breathing dust. |
| **Precautionary advice** | Use adequate ventilation. Avoid eye contact. Wear protective gloves and safety glasses during bulk handling. Wash thoroughly after handling. |

## 3. Composition and Information on Ingredients

| Substance | CAS / EC | Formula / molecular weight | Concentration | Classification |
|---|---|---|---|---|
| Ectoin | 96702-03-3 / 431-910-1 | C6H10N2O2 / 142.16 g/mol | >=99.0% | Not classified on available information |

## 4. First Aid Measures

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| **Inhalation** | Move to fresh air. Keep at rest. Obtain medical advice if coughing, breathing difficulty or irritation persists. |
| **Skin contact** | Wash with soap and water. Remove contaminated clothing. Obtain medical advice if irritation persists. |
| **Eye contact** | Rinse cautiously with water for several minutes. Remove contact lenses if easy to do and continue rinsing. Obtain medical advice if irritation persists. |
| **Ingestion** | Rinse mouth. Do not induce vomiting unless directed by medical personnel. Obtain medical advice if unwell. |
| **Most important effects** | Dust may cause transient mechanical irritation; slight eye irritation is possible. |
| **Advice to physician** | Treat symptomatically. |

## 5. Fire Fighting Measures

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| **Suitable extinguishing media** | Water spray, foam, dry chemical or carbon dioxide, selected for the surrounding fire. |
| **Specific hazards** | Not classified as a flammable solid. Organic powder may burn under strong heating. Avoid suspended dust and ignition sources. |
| **Hazardous combustion products** | Carbon monoxide, carbon dioxide and nitrogen oxides may form during combustion. |
| **Protective equipment** | Wear self-contained breathing apparatus and full protective equipment when fighting a significant fire. |

## 6. Accidental Release Measures

- Avoid breathing dust and prevent eye contact. Ensure adequate ventilation and use appropriate personal protective equipment.
- Prevent uncontrolled entry into drains, surface water and soil.
- Collect by filtered vacuum or careful sweeping that minimizes dust. Place in a closed, labeled container for disposal.
- Wash the affected area after material recovery.

## 7. Handling and Storage

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| **Safe handling** | Avoid dust generation. Use local exhaust during bulk transfer. Do not eat, drink or smoke in the handling area. |
| **Storage** | Keep tightly closed in a dry place at controlled room temperature. Protect from direct sunlight, heat and moisture. |
| **Recommended temperature** | Room temperature; preferably 15-25 °C. |
| **Incompatibilities** | Strong oxidizing agents. |
| **Shelf life** | 36 months in unopened original packaging when stored as recommended. |

## 8. Exposure Controls and Personal Protection

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| **Occupational exposure limits** | No substance-specific occupational exposure limit has been established. |
| **Engineering controls** | Provide general ventilation and local exhaust where dust may form. |
| **Respiratory protection** | When dust cannot be adequately controlled, use an approved particulate respirator selected under the applicable workplace program. |
| **Hand protection** | Protective gloves suitable for the task and exposure duration. |
| **Eye protection** | Safety glasses with side shields; use goggles during dusty operations. |
| **Skin protection** | Protective work clothing appropriate to the scale of handling. |
| **Hygiene measures** | Wash hands after handling and before breaks. Launder contaminated clothing before reuse. |

## 9. Physical and Chemical Properties

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| **Physical state** | Crystals or crystalline powder |
| **Colour** | White to off-white |
| **Odor** | Characteristic and mild |
| **Molecular formula / weight** | C6H10N2O2 / 142.16 g/mol |
| **pH** | 6.0-8.0 for a 2% aqueous solution |
| **Melting / decomposition** | Approximately 280 °C with decomposition, published value |
| **Flash point** | Not applicable to the supplied solid |
| **Flammability** | Not classified as a flammable solid |
| **Water solubility** | Highly soluble; published values approximately 390-550 g/L at room temperature |
| **Partition coefficient** | log Pow >= -3, published assessment value |
| **Vapor pressure** | Negligible / not applicable to the supplied solid |

## 10. Stability and Reactivity

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| **Reactivity** | No hazardous reaction expected under recommended handling conditions. |
| **Chemical stability** | Stable under recommended storage conditions. |
| **Possibility of hazardous reactions** | No hazardous polymerization expected. |
| **Conditions to avoid** | Moisture, excessive heat, direct sunlight, dust accumulation and ignition sources. |
| **Incompatible materials** | Strong oxidizing agents. |
| **Hazardous decomposition** | Carbon monoxide, carbon dioxide and nitrogen oxides may form during combustion. |

## 11. Toxicological Information

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| **Acute toxicity** | Available assessment information indicates low hazard. No classification is recommended on the available data. |
| **Skin irritation** | Available assessment data indicate no or only slight irritation, below classification thresholds. |
| **Eye irritation** | Slight eye irritation is possible; available data do not support GHS classification. |
| **Sensitization** | No sensitizing effects were identified in the cited assessment information. |
| **Mutagenicity / genotoxicity** | Available assessment information does not indicate mutagenic or genotoxic potential. |
| **Carcinogenicity / reproductive toxicity** | No classification is supported by the available information. |
| **STOT / aspiration hazard** | Not classified on available information. Aspiration classification is not applicable to the supplied solid. |

## 12. Ecological Information

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| **Ecotoxicity** | Available assessment information does not indicate acute or chronic aquatic hazard requiring GHS classification. |
| **Persistence and degradability** | No product-specific conclusion stated in the supplied specification. |
| **Bioaccumulative potential** | Low potential is expected from the high water solubility and very low partition coefficient. |
| **Mobility in soil** | High mobility may be expected due to high water solubility. |
| **Other adverse effects** | Avoid uncontrolled environmental release. |

## 13. Disposal Considerations

Dispose of surplus material and contaminated packaging through a licensed waste contractor in accordance with local regulations. Do not discharge large quantities to drains or the environment.

## 14. Transport Information

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| **UN number** | Not assigned |
| **ADR / RID** | Not regulated as dangerous goods |
| **IMDG** | Not regulated as dangerous goods |
| **IATA / ICAO** | Not regulated as dangerous goods |
| **Transport hazard class / packing group** | Not assigned |
| **Environmental hazards** | Not classified as a marine pollutant on available information |
| **Special precautions** | Keep packaging dry, tightly closed and protected from heat and physical damage. Confirm current carrier requirements before shipment. |

## 15. Regulatory Information

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| **GHS status** | Not classified as hazardous based on available assessment and notification information. |
| **REACH identity** | EC 431-910-1; CAS 96702-03-3. Publicly reported REACH registration number: 01-0000017811-72-0001. |
| **Cosmetic use** | The customer is responsible for confirming the applicable ingredient name, use conditions and finished-product compliance in each destination market. |
| **Chemical safety assessment** | No supplier-specific chemical safety assessment is included with this document. |

## 16. Other Information

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| **Issue date / version** | 02 Nov 2026 / Version 1.1 |
| **Prepared by** | Shaanxi Pinhon Biotechnology Co., Ltd. |
| **Basis** | Supplied Ectoin COA and Method of Analysis; available identity, safety and technical information. |
| **References** | ECHA registered-substance dossier for CAS 96702-03-3; Australian industrial-chemical public assessment STD/1613; PubChem Ectoine record; published technical information for cosmetic ectoin grades. |

*Disclaimer: This SDS is based on the supplied product specification and information available on the issue date. It provides guidance for occupational handling, storage, transport and disposal and is not a warranty or finished-product safety assessment. Users must evaluate their own process, exposure and regulatory obligations.*