

## Technical Data Sheet (TDS)

### 1. Product Overview

- **Product Name:** Potassium Bicarbonate
- **English Name:** Potassium Bicarbonate
- **CAS Number:** 298-14-6
- **Formula:** KHCO<sub>3</sub>
- **Molecular Weight:** 100.12 g/mol
- **Product Characteristics:** High-purity white crystalline powder/crystals, odorless, slightly hygroscopic, water-soluble, mildly alkaline (1% aq. solution). Non-combustible, stable under normal storage; reacts with strong acids to release CO<sub>2</sub> and decomposes at >200°C to potassium carbonate. FDA/EU/China approved for food/pharmaceutical use; multi-functional as leavening agent, buffering agent, pH adjuster with low impurity content and food-grade safety.

### 2. Technical Specifications

Item	Specification
Appearance	White crystalline powder/crystals
Purity (KHCO <sub>3</sub> )	≥ 99.0%
Moisture Content	≤ 0.2%
pH Value (1% aq. solution, 25°C)	8.2–9.8
Chloride (Cl <sup>-</sup> )	≤ 0.01%
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	≤ 0.01%
Heavy Metals (Pb)	≤ 2 ppm
Arsenic (As)	≤ 1 ppm
Sodium (Na)	≤ 0.5%
Insoluble Matter in Water	≤ 0.01%
Solubility (20°C)	≥22.0 g/100mL (water)
Density (25°C)	2.17 g/cm <sup>3</sup>
Hygroscopy	Slightly hygroscopic

### 3. Product Advantages

1. **High Purity:** ≥99.0% purity with ultra-low heavy metal/impurity content; suitable for food/pharmaceutical/industrial use.
2. **Food-Grade Safe:** FDA GRAS (E501ii) and China GB approved; non-toxic, no harmful residues for food/ pharmaceutical applications.
3. **Multi-Functional:** Leavening agent (baking), buffering agent (food/industry), pH adjuster (water treatment), fungicide (agriculture).
4. **Mild Alkalinity:** Low pH (8.2–9.8) for gentle pH adjustment; no aggressive alkaline reaction.
5. **Stable Performance:** Slightly hygroscopic with no caking (proper packaging); chemically stable under normal storage/use.
6. **Eco-Friendly:** Natural mineral salt (essential K nutrient for plants); no environmental pollution/toxicity.
7. **Low Sodium:** ≤0.5% Na content; ideal for low-sodium food/industrial formulations.

### 4. Application Fields

- **Food Industry (E501ii):** Leavening agent for bread/cookies/cakes (reacts with acid to release CO<sub>2</sub>); buffering agent for dairy/ beverages/jams (stabilizes pH); low-sodium alternative to sodium bicarbonate.



## NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.  
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

---

- **Pharmaceuticals:** Excipient for tablets/capsules (buffering agent/pH adjuster); antacid (mild relief of gastric acid).
- **Agriculture:** Foliar fertilizer (K nutrient supplement); organic fungicide (powdery mildew control for fruits/vegetables).
- **Water Treatment:** pH adjuster for drinking water/wastewater (gentle alkaline adjustment); removes heavy metal ions (precipitation).
- **Industry:** Buffering agent for electroplating/metal surface treatment; pH adjuster for paint/ink formulations; fire retardant additive for plastics.
- **Other:** Cosmetic pH adjuster (skincare/haircare); cleaning agent (mild degreaser for kitchen/bathroom).

### 5. Usage Methods

- **Food Leavening Agent:** Mix 1–3% with flour/other dry ingredients; reacts with acidic ingredients (citric acid/yogurt) to release CO<sub>2</sub> during baking (30–40°C).
- **Agricultural Fungicide/Fertilizer:** Prepare 0.5–2% aq. solution; spray on plant foliage (1–2 times/week) for powdery mildew control/K supplementation.
- **Water Treatment pH Adjuster:** Add 50–200 ppm to water; stir evenly to adjust pH to 7.0–8.5 (monitor pH in real time).
- **Pharmaceutical Buffering Agent:** Add 0.5–2% to tablet/capsule formulations; adjust pH to 6.0–8.0 (per pharmaceutical standards).
- **Optimal Conditions:** Use at 10–40°C; avoid mixing with strong acids (CO<sub>2</sub> release); store in moisture-proof packaging to prevent caking.

### 6. Packaging & Storage

- **Packaging:** 1 kg/bag (food/pharm grade), 25 kg HDPE moisture-proof drums, 50 kg fiber drums, 1000 kg IBC totes (bulk industrial); food-grade aluminum foil packaging available.
- **Storage:** Cool, dry, well-ventilated warehouse ( $\leq 30^{\circ}\text{C}$ ); sealed moisture-proof packaging; avoid direct sunlight/high temperature ( $> 200^{\circ}\text{C}$ ); separate from strong acids.
- **Shelf Life:** 36 months (unopened); 6 months after opening (seal tightly after use).
- **Transportation:** Non-hazardous goods; avoid moisture/collision/acid contact during transport; keep sealed.

### 7. Safety & Protection

- Wear safety goggles and dust mask for bulk powder handling; avoid dust inhalation/eye contact (main hazard).
- Rinse eyes with plenty of water immediately if contact occurs; consult a doctor if irritation persists.
- Do not mix with strong acids (releases CO<sub>2</sub> gas); use fume hood if acid contact is unavoidable.
- Separate food/pharm grade from industrial grade (dedicated storage/handling); food-grade must comply with GMP/HACCP.

### 8. Quality Assurance

- Manufactured under ISO 9001 (quality), ISO 14001 (environmental), GMP (pharm/food) and HACCP (food) management systems.
- Each batch is tested for purity, heavy metals, and impurities; accompanied by a COA for compliance with food/industrial/ pharmaceutical standards.
- Provide customized technical solutions (dosage, formulation) for food/pharm/agri/water treatment applications; technical support available 24/7.