



开原亨泰营养科技有限公司

Kaiyuan Hengtai Nutrition Co., Ltd.

### Certificate of Analysis

**Ingredient Name:** L-Carnitine USP  
**Batch Number:** 10100120220157  
**Quantity:** 1000KGS  
**Country of Origin:** China  
**Date of Manufacture:** Jan.12,2022  
**Date of Re-Test :** Jan.11,2024

| Item                      | Standard                             | Results                  | Method       |
|---------------------------|--------------------------------------|--------------------------|--------------|
| Appearance                | White crystals or crystalline powder | White crystalline powder | Organoleptic |
| Identification            | IR                                   | Positive                 | USP          |
| Appearance of Solution    | Clear and Colourless                 | Clear and Colourless     | Ph.Eur.      |
| Specific Rotation         | -29.0°~-32.0°                        | -31.31°                  | USP          |
| pH                        | 5.5~9.5                              | 6.86                     | USP          |
| Loss on Drying            | ≤0.5%                                | 0.26%                    | USP          |
| Assay                     | 97.0%~103.0%                         | 99.72%                   | USP          |
| Residue on Ignition       | ≤0.1%                                | 0.04%                    | USP          |
| D-Carnitine               | ≤0.2%                                | 0.08%                    | HPLC         |
| <b>Residual Solvents:</b> |                                      |                          |              |
| Residue Ethanol           | ≤5000ppm                             | Conforms                 | USP          |
| Heavy Metals              | ≤10ppm                               | <10ppm                   | USP          |
| Arsenic                   | ≤1ppm                                | <1ppm                    | USP          |
| Chloride                  | ≤0.4%                                | <0.4%                    | USP          |
| Potassium                 | ≤0.2%                                | <0.2%                    | USP          |
| Sodium                    | ≤0.1%                                | <0.1%                    | USP          |
| Cyanide                   | Absent                               | Absent                   | Ch.P.        |
| Lead                      | ≤3ppm                                | <3ppm                    | USP          |
| Mercury                   | ≤0.1ppm                              | <0.1ppm                  | USP          |
| Cadmium                   | ≤1ppm                                | <1ppm                    | USP          |
| Total Plate Count         | ≤1000Cfu/g                           | 20 Cfu/g                 | USP          |
| Yeast & Mold              | ≤100Cfu/g                            | 10 Cfu/g                 | USP          |
| E.Coli                    | Negative                             | Negative                 | USP          |
| Salmonella                | Negative                             | Negative                 | USP          |

We certify that this batch of **L-Carnitine** conforms to the current USP .

Analysts 徐娜 Checker 高伟 Supervisor 王书海

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