

Version Molecular weight Molecular Formula CAS No Linear Formula Flash Point (°C) 00 147.13 C5 H9 N O4 6893-26-1 HO2CCH2CH2CH(NH2)CO2H

## Certificate of Analysis

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| Catalog Number        | 22789                   | Quality Test / Release Date | 03/13/2024 |
|-----------------------|-------------------------|-----------------------------|------------|
| Lot Number            | A0460904                | Suggested retest date       | 03/13/2029 |
| Description           | D(-)-Glutamic acid,99+% |                             |            |
| Country of Origin     | CHINA                   |                             |            |
| Declaration of Origin | other                   |                             |            |
|                       |                         |                             |            |

## BSE/TSE Chemical

| Result name               | Specifications                                  | Test Value                            |  |
|---------------------------|---|---------------------------------------|--|
| Appearance (Color)        | White to off-white                              | White                                 |  |
| Appearance (Form)         | Powder  | Powder                                |  |
| Infrared spectrum         | Conforms  | Conforms                              |  |
| Titration with NaOH       | 99.0 to 101.0 %                                 | 99.2 %                                |  |
| Loss on drying            | =<0.2 % (105°C, 3 hrs)                          | 0.1 % (105°C, 3 hrs)                  |  |
| Sulfated ash              | =<0.1 %   | 0.08 %                                |  |
| Other amino acids         | =<0.5 % (TLC)                                   | =<0.5 % (TLC)                         |  |
| Specific optical rotation | -30.5° to -32.2° (20°C, 589 nm) (c=10, 2 N HCl) | -31.5° (20°C, 589 nm) (c=10, 2 N HCl) |  |
| HPLC                      | =<1 % L-content                                 | =<1 % L-content                       |  |

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