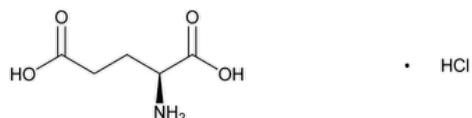


Status: Currently Official on 15-Feb-2025  
 Official Date: Official as of 01-May-2020  
 Document Type: NF Monographs  
 DocId: GUID-48B2C2ED-A66A-49CC-A8E5-1915BF190313\_4\_en-US  
 DOI: [https://doi.org/10.31003/USPNF\\_M3487\\_04\\_01](https://doi.org/10.31003/USPNF_M3487_04_01)  
 DOI Ref: xft4d

© 2025 USPC  
 Do not distribute

## L-Glutamic Acid, Hydrochloride



$C_5H_9NO_4 \cdot HCl$  183.59

L-2-Aminoglutaric acid, hydrochloride;

2-Aminopentanedioic acid, hydrochloride CAS RN®: 138-15-8.

### DEFINITION

L-Glutamic Acid, Hydrochloride, contains NLT 98.5% and NMT 101.5% of  $C_5H_9NO_4 \cdot HCl$ , calculated on the dried basis.

### IDENTIFICATION

**Change to read:**

- [▲SPECTROSCOPIC IDENTIFICATION TESTS \(197\)](#), [Infrared Spectroscopy: 197K](#)▲ (CN 1-MAY-2020)

### ASSAY

#### PROCEDURE

**Sample:** 100 mg of L-Glutamic Acid, Hydrochloride, previously dried

**Analysis:** Dissolve the *Sample* in 0.5 mL of water, add 15.0 mL of 0.1 N perchloric acid VS, and heat on a water bath for 30 min. After cooling, add 45 mL of glacial acetic acid, and titrate the excess perchloric acid with 0.1 N sodium acetate, determining the endpoint potentiometrically. Perform a blank determination (see [Titrimetry \(541\)](#)). Each mL of 0.1 N perchloric acid is equivalent to 18.36 mg of  $C_5H_9NO_4 \cdot HCl$ .

**Acceptance criteria:** 98.5%–101.5% on the dried basis

### IMPURITIES

#### Inorganic Impurities

- [RESIDUE ON IGNITION \(281\)](#): NMT 0.25%

### SPECIFIC TESTS

- [OPTICAL ROTATION, Specific Rotation \(781S\)](#): +25.2° to +25.8°, determined at 20°  
**Sample solution:** 100 mg/mL, in 2 N hydrochloric acid
- [LOSS ON DRYING \(731\)](#): Dry a sample at 80° for 4 h: it loses NMT 0.5% of its weight.

### ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Store in well-closed, light-resistant containers.
- [USP REFERENCE STANDARDS \(11\)](#)  
[USP L-Glutamic Acid, Hydrochloride RS](#)

**Auxiliary Information** - Please [check for your question in the FAQs](#) before contacting USP.

| Topic/Question                 | Contact                                       | Expert Committee                                 |
|--------------------------------|-----------------------------------------------|--------------------------------------------------|
| L-GLUTAMIC ACID, HYDROCHLORIDE | <a href="#">Documentary Standards Support</a> | SE2020 Simple Excipients<br>Document Sharing Hub |

**Chromatographic Database Information:** [Chromatographic Database](#)

**Most Recently Appeared In:**

Pharmacopeial Forum: Volume No. PF 35(5)

**Current DocID:** GUID-48B2C2ED-A66A-49CC-A8E5-1915BF190313\_4\_en-US

**DOI:** [https://doi.org/10.31003/USPNF\\_M3487\\_04\\_01](https://doi.org/10.31003/USPNF_M3487_04_01)

**DOI ref:** [xft4d](#)

OFFICIAL