

L-Glutamic acid

(From non-animal source)

Meets USP-NF, EP, BP and JP Testing specifications.

Product Code: TC074M

Product Description :

Molecular weight: 147.13

Molecular formula: $C_5H_9NO_4$

CAS No.: 56-86-0

Quality Control:

Appearance (EP, BP)

White or almost white crystalline powder, or colourless crystals

Appearance (JP)

White crystals or crystalline powder

Solubility (EP)

Freely soluble in boiling water, slightly soluble in cold water Practically insoluble in acetic acid, in acetone and in alcohol

Solubility (BP)

Freely soluble in boiling water, slightly soluble in cold water Practically insoluble in acetic acid, in acetone and in ethanol (96%)

Solubility (JP)

Slightly soluble in water, and practically insoluble in ethanol (99.5%). It dissolve in 2 mol/L hydrochloride TS

Identification A : FTIR (USP, JP)

Matches with the standard pattern

Identification A : Specific rotation (EP, BP)

+30.5 to +32.5 ($c = 10\%$ in 1M HCl at $20^\circ\text{C} \pm 0.5^\circ\text{C}$, calculated with reference to dried substance)

Identification B : FTIR (EP, BP)

Matches with the standard pattern

Identification C : Ninhydrin-positive substances : TLC (EP, BP)

Complies

Identification D (EP, BP)

Complies

pH (0.7% in water) : (JP)

2.9 - 3.9

Appearance of solution (EP, BP)

Solution of 5g in 50mL of 1M HCl is clear and colourless

Clarity & colour of solution (JP)

Solution of 1 gm in 10 mL of 2 mol/L HCl is clear and colourless

Chloride (JP)

$\leq 0.021\%$

Ammonium (EP, BP, JP)

$\leq 0.02\%$

Chloride (USP, EP, BP)

$\leq 0.02\%$

Sulfate (USP)

$\leq 0.02\%$

Sulfate (EP, BP)

$\leq 0.03\%$

Sulfate (JP)

$\leq 0.028\%$

Iron (USP, EP, BP, JP)

$\leq 0.001\%$

Sulfated ash (EP, BP)

$\leq 0.1\%$

Ninhydrin-positive substances : TLC (EP, BP)

Complies

Related substances: the amount of each amino acid other than glutamic acid, Amino acid analyser : (JP)

$\leq 0.2\%$

Related substances : Total amount of amino acid, Amino acid analyser : (JP)

$\leq 0.6\%$

Related compounds, Individual impurities : TLC (USP)

<= 0.5%

Related compounds, Total impurities : TLC (USP)

<= 2.0%

System suitability 1, Amino acid analyser : resolution (JP)

>= 1.2, The resolution between the peak of glycine and L-alanine

System suitability 2, Amino acid analyser : RSD of the retention time (JP)

<= 1.0%

System suitability 3, Amino acid analyser : RSD of the peak height of each amino acid in the standard solution (JP)

<= 5.0%

Specific rotation (USP, JP)

+31.5° to +32.5° (c=10% in 2M HCl, at 20°C)

+Specific rotation (EP, BP)

+30.5° to +32.5° (c=10% in 1M HCl, at 20 ± 0.5°C, dried substance)

Loss on drying (at 105°C, 3 hr) : (USP)

<= 0.1%

Loss on drying (at 105°C, till constant weight) : (EP, BP)

<= 0.5%

Loss on drying (at 105°C, 3 hr) : (JP)

<= 0.3%

Residue on ignition (USP, JP)

<= 0.1%

Heavy metals (JP)

<= 0.001%

Assay (NT, on dry basis) : (USP)

98.5 - 101.5%

Assay (NaOH T, dried substance) : (EP, BP)

98.5 - 100.5%

Assay (NaOH T, on dry basis) (JP)

99.0 - 101.0%

Endotoxin content

<= 25 IU/g

Total aerobic microbial count (TAMC)

<= 100 CFU/g

Total yeasts and molds count (TYMC)

<= 100 CFU/g

Storage and Shelf Life:

Store below 30°C away from bright light.

Shelf life is 48 months.

Use before expiry date given on the product label.

Revision : 04/2025

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.