Optical Rotation: $[\alpha]_D^{25}$+17 (c, 2 in H_2O). $[\alpha]_D^{25}$+46.8 (c, 2 in 5*M* HCl)
Solubility: Spar. sol. EtOH, H_2O (0.84 g/100g at 25°)
pKa Value: pK_{a1} 2.2; pK_{a2} 4.2; pK_{a3} 9.6 (25°,NH_2)
Other Data: Isoelectric point 3.24. Appetising taste
Hazard & Toxicity: Human systemic effects by ingestion and intravenous routes

Aldrich: W32850-2
Fluka: 49450
Sigma: G5638

>>**Derivative:** Hydrochloride

CAS Registry Number: 138-15-8

Use/Importance: Dietary supplement, nutrient, flavouring agent and enhancer
Biological Use/Importance: Used in treatment of achlorhydria or hypochlorhydria
Melting Point: Mp 202° (dec.), 213° (rapid heating)
Aldrich: 14941-1
Fluka: 49570
Sigma: G2128

>>**Derivative:** Na salt
Synonym(s): Monosodium glutamate. MSG. Chinese seasoning. Accent. Ajinomoto. Glutacyl. Glutavene. RL-50. E621

CAS Registry Number: 142-47-2
Extra CAS Registry Numbers(s): 6106-04-3 16177-21-2

Molecular Formula: $C_5H_8NNaO_4$
Molecular Weight: 169.112
Accurate Mass: 169.035101
Percentage Composition: C 35.51%; H 4.77%; N 8.28%; Na 13.59%; O 37.84%
Source/Synthesis: Prod. industrially as the monohydrate by neutralisation of L-glutamic acid with sodium hydroxide in aq. soln.
Use/Importance: Food flavour enhancer, used also to improve the palatability of some medicines
Physical Description: Rhombic prisms + $1H_2O$ (H_2O) with characteristic meaty taste ("umami")
Optical Rotation: $[\alpha]_D^{20}$+25.16 (c, 10 in 2*M* HCl). $[\alpha]_D^{20}$–4 (c, 1.2 in H_2O)
Other Data: Monohydrate loses water of crystallisation at 120°, undergoes intramolecular dehydration at 155° and dec. at 225°. Taste threshold 0.3% in H_2O

>>**Derivative:** 1-Me ester

CAS Registry Number: 6384-08-3
Molecular Formula: $C_6H_{11}NO_4$
Molecular Weight: 161.157
Accurate Mass: 161.068809
Percentage Composition: C 44.72%; H 6.88%; N 8.69%; O 39.71%
Physical Description: Cryst. (EtOH/Et_2O)
Melting Point: Mp 145° (dec.)
Optical Rotation: $[\alpha]_D^{15}$+11.6 (c, 1 in H_2O). $[\alpha]_D^{25}$+35.1 (c, 2 in H_2O)

>>**Derivative:** 5-Me ester

CAS Registry Number: 1499-55-4
Molecular Formula: $C_6H_{11}NO_4$
Molecular Weight: 161.157
Accurate Mass: 161.068809
Percentage Composition: C 44.72%; H 6.88%; N 8.69%; O 39.71%
Melting Point: Mp 188° (dec.). Mp 170° (as hydrochloride)
Optical Rotation: $[\alpha]_D^{15}$+15.4 (c, 1 in H_2O)
Aldrich: 85826-9
Fluka: 49610
Sigma: G1751