

Certificate of Analysis

Product Name: L-GLUTAMINE
BioUltra
Product Number: 99980
Product Brand: Fluka
Molecular Formula: C₅H₁₀N₂O₃
Molecular Mass: 146.14
CAS Number: 56-85-9

TEST	SPECIFICATION	LOT BCBG1414V RESULTS
APPEARANCE (COLOR)	COLORLESS OR WHITE	WHITE
APPEARANCE (FORM)	POWDER	POWDER
TITRATION (NT) HClO ₄ 0.1M	99.5 - 100.5 %	99.8 %
THIN LAYER CHROMATOGR.	FOREIGN AMINO ACIDS ≤0.5%	FOREIGN AMINO ACIDS ≤0.5%
SPECIFIC ROTATION (20/D)	33.0 ± 1.0 DEGREES	33.6 DEGREES
CONCENTRATION	--	C=5 IN HCL 5M
MELTING POINT (DEC.)	187 - 197 C	188 C
LOSS ON DRYING	≤ 0.1 %	<0.05%
SULFATED ASH	≤ 0.1 %	<0.05%
INFRARED SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS
METAL TRACE ANALYSIS (ICP)	CORRESPONDS TO REQUIREMENTS	PASSED
ALUMINIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
BARIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
BISMUTH (ICP)	≤ 5 MG/KG	< 5 MG/KG
CALCIUM (ICP)	≤ 10 MG/KG	< 10 MG/KG
CADMIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
COBALT (ICP)	≤ 5 MG/KG	< 5 MG/KG
CHROMIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
COPPER (ICP)	≤ 5 MG/KG	< 5 MG/KG
IRON (ICP)	≤ 5 MG/KG	< 5 MG/KG
POTASSIUM (ICP)	≤ 50 MG/KG	< 50 MG/KG
LITHIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
MAGNESIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
MANGANESE (ICP)	≤ 5 MG/KG	< 5 MG/KG
MOLYBDENUM (ICP)	≤ 5 MG/KG	< 5 MG/KG

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SODIUM (ICP)	≤ 50 MG/KG	< 50 MG/KG
NICKEL (ICP)	≤ 5 MG/KG	< 5 MG/KG
LEAD (ICP)	≤ 5 MG/KG	< 5 MG/KG
STRONTIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
ZINC (ICP)	≤ 5 MG/KG	< 5 MG/KG
ARSENIC TRACES (MHS-AAS)	≤ 0.1 MG/KG	<0.05MG/KG
CHLORIDE (CL)	≤ 50 MG/KG	<50MG/KG
SULFATE (SO4)	≤ 50 MG/KG	50 MG/KG
SOLUBILITY (METHOD)	--	0.438 G IN 30 ML H2O (0.1 M)
APPEARANCE (SOLUTION)	CLEAR COLORLESS	CLEAR COLORLESS
PH	5.0 - 6.0	5.5
RESIDUE (FILTER TEST)	NO RESIDUE	NO RESIDUE
UV - ABS. AT 260 NM	≤ 0.01	0.005
UV - ABS. AT 280 NM	≤ 0.01	0.004
CUT-OFF	--	233.8 NM

QC RELEASE DATE 14/JUL/11

RECOMMENDED RETEST DATE JUN/15



Edeltraud Schwärzler, Manager

Quality Control

Buchs, Switzerland

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