

SHANGHAI KYOWA AMINO ACID CO., LTD.
NO. 158, XINTUAN ROAD, QINGPU INDUSTRIAL ZONE, SHANGHAI, P.R.CHINA

CERTIFICATE OF ANALYSIS

Prinova
PO# 105914
Item# 1254
Quantity: 1,000 kg


Commodity: L-HISTIDINE
Lot No.: 13090762
Manufacturing date: Oct-10-2013
Analysis date: Oct-10-2013
Retest date: Oct-10-2016

SPECIFICATION	ACCEPTANCE CRITERIA	RESULT
APPEARANCE	WHITE CRYSTALS OR CRYSTALLINE POWDER	WHITE CRYSTALLINE POWDER
IDENTIFICATION BY IR	PASS TEST	PASS TEST
STATE OF SOLUTION (%)	NOT LESS THAN 98.0%	100.0%
pH	7.0 ~ 8.5	7.7
SPECIFIC ROTATION (AT 20°C)	+12.0 ~ +12.8°	+12.4°
(AT 25°C)	+12.6 ~ +14.0°	+13.4°
AMMONIUM (NH ₄)	NOT MORE THAN 0.020%	NOT MORE THAN 0.020%
CHLORIDE (Cl)	NOT MORE THAN 0.020%	NOT MORE THAN 0.020%
SULFATE (SO ₄)	NOT MORE THAN 0.020%	NOT MORE THAN 0.020%
IRON (Fe)	NOT MORE THAN 10ppm	NOT MORE THAN 10ppm
HEAVY METALS (as Pb)	NOT MORE THAN 5ppm	NOT MORE THAN 5ppm
LEAD (Pb)	NOT MORE THAN 5ppm	NOT MORE THAN 5ppm
ARSENIC (As ₂ O ₃)	NOT MORE THAN 1ppm	NOT MORE THAN 1ppm
LOSS ON DRYING	NOT MORE THAN 0.20%	0.02%
RESIDUE ON IGNITION	NOT MORE THAN 0.10%	0.02%
FOREIGN AMINO ACIDS	NOT MORE THAN 0.5% (TLC,20µg)	NOT MORE THAN 0.5% (TLC,20µg)
ASSAY (DRY BASIS)	99.0 ~ 101.0%	100.4%
TOTAL PLATE COUNT	NOT MORE THAN 1000 CFU / g	NOT MORE THAN 1000 CFU / g
FUNGALCOUNT	NOT MORE THAN 100 CFU / g	NOT MORE THAN 100 CFU / g
E.COLI	NEGATIVE	NEGATIVE

WE HEREBY CERTIFY THAT THE COMMODITY DESCRIBED ABOVE MEETS THE REQUIREMENTS OF THE CURRENT USP EP AND FCC.

NO ORGANIC VOLATILE IMPURITIES AS IDENTIFIED IN THE CURRENT USP ARE INTRODUCED IN THE MANUFACTURING PROCESS OF THE ABOVE DESCRIBED COMMODITY.

The undersigned affirms that contents mentioned above are truly reported in accordance with the analysis by Quality Control Department.



QA Manager