

Wuhan Amino Acid Bio-Chemical Co., Ltd.

武汉阿米诺科技有限公司

Add: Bonded Warehouse Building, Wuhan Economic & Technology Development Zone, Wuhan, China

中国武汉市经济技术开发区保税仓库大楼

## CERTIFICATE OF ANALYSIS

Product: L-Tryptophan

CAS. No.: 73-22-3

Batch No.: 20201116

Manu. Date: Nov., 16, 2020

Quantity: 100kg

Inspecting Date: Nov., 17, 2020

Expiry Date: Nov., 15, 2022

Item	Specification	Test result
Appearance	White to yellowish white crystals or crystalline powder	Conforms
Identification	Conforms EP9.0	Conforms
Appearance of solution	Clear and not more intensely coloured than solution BY <sub>6</sub>	Conforms
Specific rotation $[\alpha]_D^{20}$	-30.0° to -33.0°	-31.2°
Ninhydrin-positive substances	Substance: for each impurity, Maximum 0.2% Total Maximum 0.5%	Conforms
Impurity A and other related substances	1, Impurity A $\leq 10$ ppm	Conforms
	2, Sum of impurities with a retention time less than that of tryptophan $\leq 100$ ppm	
	3, Sum of impurities with a retention time greater than that of tryptophan and up to 1.8 times the retention time of N-acetyltryptophan $\leq 300$ ppm	
Chloride (Cl)	Not more than 200 ppm	< 200 ppm
Ammonium (NH <sub>4</sub> )	Not more than 200 ppm	< 200 ppm
Sulfate (SO <sub>4</sub> )	Not more than 300 ppm	< 300 ppm
Iron (Fe)	Not more than 20 ppm	< 20 ppm
Heavy metals (Pb)	Not more than 10 ppm	< 10 ppm
Loss on drying	Not more than 0.50%	0.06%
Residue on ignition	Not more than 0.10%	0.05%
Assay	98.5% to 101.0%	99.3%
Conclusion: The product conforms to the specification of EP9.0 standards.		

Analyst: 检 1

Check: 检 2

