

Certificate of Analysis

Date of Testing: 2022-12-02 05:19:16
 Date of Next Testing: 2026-12-01 05:17:36
 Product Name: **L-Tryptophan**
 CAS Number: 73-22-3
 Specifications & Purity: from non-animal source, meets EP, JP, USP testing specifications, for cell culture, 99.0-101.0%
 Lot #: C23071119
 SKU #: **T118579**
 Analysis: **162191**

Parameter	Limit Values	Result
Ammonia (NH ₄)	0-0.02 (%)	0.01 %
Chloride	0-0.02 (%)	0.00 %
Loss on drying	0-0.1 (%)	0.01 %
PH test(1% in water)	3-3.5	3.20
(As)Arsenic	0-1 (ppm)	0.00 ppm
Ignition Residue	0-0.1 (%)	0.01 %
Iron(Fe)	0-20 (ppm)	10.50 ppm
Heavy metals	0-10 (ppm)	0.00 ppm
Sulfate(SO ₄ ²⁻)	0-0.02 (%)	0.01 %
Specific Rotation [α] ₂₀ /D(0.1g /10mL 1M HCl)EP and JP	-32.5--30.5 (°)	-31.20°
Specific Rotation [α] ₂₀ /D(c=1 H ₂ O)	-29.4 ~ -32.8 (°)	-29.80°
Assay(dry basis)	99-100.5 (%)	99.30 %
Endotoxin Assay	0-1 (EU/mg)	0.90 EU/mg
Appearance (T118579)	white to yellow crystals,powder,crystalline powder	white to yellow crystals,powder,crystalline powder
Cell Culture Test	pass	Pass
Ninhydrin-positive substances (other amino acids)	Conforms	Conforms
Origin	non-animal source	non-animal source
Residual solvents	complies	complies
Solubility,Clear , 0.5 g to 20 mL of 2M HCl	pass	Pass
Infrared spectrum	Conforms to Structure	Conforms to Structure



ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

A handwritten signature in black ink that reads "John Su". The signature is written in a cursive, flowing style.

John Su
QA & QC Manager