Food-grade L-Tryptophan Product Specification

File Number: [QJS26061501]
Effective Date: [June 15,2026]
Manufacturer: Jiangsu Quanjiashun Health Technology Co., Ltd.

I. Basic Product Information

project	content
product name	L-Tryptophan
alias	L-α-Amino-3-indolpropionic acid, (S)-2-amino-3-(3-indolyl)propionic acid L-3β-indol 丙氨酸
CAS Number	73-22-3
molecular formula	$C_{11}H_{12}N_2O_2$
relative molecular mass	204.23
chemical name	L-2-amino-3-indolyl-1-propionic acid
operative norm	QB/T 5633.4-2022 "Amino Acids, Amino Acid Salts and Their Analogues – Part 4: L-Tryptophan"
size of product	Food-grade (Grade 1/Grade 2)

II. Production Process

It is produced from starches, sugars, and other raw materials through biological fermentation, followed by extraction and purification.

III. Sensory Requirements

project	ask
colour and lustre	White to light yellowish-white
smell	Exhibits the inherent odor of this product and is free from any unpleasant odor.
state	Crystal or crystalline powder
impurity	No foreign particles visible to the naked eye

IV. Physical and Chemical Parameters

project	Primary Indicator	Secondary Indicator
distinguish	The infrared absorption spectrum of the sample shall be consistent with Figure 946 in the "Pharmaceutical Infrared Spectra Collection".	
Content (on a dry basis)	99.0% ~ 100.5%	98.5% ~ 100.5%
Specific optical rotation	-32.5° ~ -30.0°	
pH	5.5 ~ 6.4	
Transmittance of the solution	≥ 95.0%	
Drying reduction	≤ 0.2%	≤ 0.3%
ignition residue	≤ 0.1%	
Chlorides (expressed as Cl)	≤ 0.02%	≤ 0.05%
Sulfate	≤ 0.02%	≤ 0.03%
ammonium salt	≤ 0.02%	
Iron salts	≤ 10 mg/kg	≤ 30 mg/kg
Other amino acids	≤ 0.5%	

V. Safety Parameters (Microorganisms and Heavy Metals)

project	Primary Indicator	Secondary Indicator
Lead (Pb)	≤ 0.3 mg/kg	≤ 0.5 mg/kg
arsenic （As）	≤ 0.2 mg/kg	≤ 0.5 mg/kg
total numbers of colony	≤ 1000 CFU/g	
coli group	≤ 10 CFU/g	
Molds and Yeasts	≤ 50 CFU/g	
Staphylococcus aureus	Not to be detected	
salmonella	Not to be detected	

VI. Reference Detection Methods

project	Reference Detection Method
Content	Non-electrohydrometric titration method: Dissolve the sample in anhydrous formic acid, add glacial acetic acid, and then perform potentiometric titration using perchloric acid standard solution.
Specific optical rotation	Optical rotation method
pH	pH meter method (5.5 to 6.4)
Drying reduction	direct drying method
ignition residue	High-temperature Ashing Method
chlorid	Turbidity Method
Sulfate	Turbidity Method
ammonium salt	Colorimetry
Iron salts	Colorimetry
Other amino acids	chromatography
Lead	Atomic absorption spectroscopy (AAS) or inductively coupled plasma mass spectrometry (ICP-MS)
arsenic	Atomic fluorescence spectroscopy or ICP-MS
Microbial Indicators	Implement in accordance with the GB 4789 series standards

VII. Product Features

project	description
solubility	Slightly soluble in water, extremely sparingly soluble in ethanol, readily soluble in formic acid, soluble in hot ethanol, alkaline hydroxide solutions, and dilute hydrochloric acid; insoluble in chloroform and ether.
stability	Photosensitive; store away from light.
melting point	Approximately 290°C

VIII. Scope of Application

L-tryptophan is listed as a nutritional fortifier under GB 14880 and is permitted for use in special dietary foods. Its primary applications include:

Infant formula milk powder: As a supplement of essential amino acids

Special Medical Purpose Formula Foods: For use in individuals with malnutrition or absorption disorders

Sports supplements: Supplementation of essential amino acids

Health foods: Assist in improving sleep and regulating mood

Note: Tryptophan is not included in the list of substances specified by GB 2760 and cannot be used

as a food additive in ordinary dairy beverages.

IX. Packaging and Storage

project	ask
packing specifications	25 kg per bag (or customizable according to customer requirements)
storage condition	Seal tightly and store in a cool, dry, well-ventilated place away from light.
quality guarantee period	24 months