

Food-grade L-leucine specification according to USP 30

File Number: [QJS26072402]

Effective Date: [July 24,2026]

Manufacturer: Jiangsu Quanjiaashun Health Technology Co., Ltd.

I. Basic Product Information

product name	L- Leu
English name	L-Leucine
CAS Number	61-90-5
molecular formula	$C_6H_{13}NO_2$
formula weight	131.17
Product Grade	Food-grade (compliant with USP pharmacopoeia standards)
production engineering	Microbial fermentation method (non-animal-derived)
scope of application	Food fortification, health supplements, sports nutrition products, beverages, baked goods, and compound amino acid preparations

II. Characteristics

This product appears as white crystals or crystalline powder, odorless with a slightly bitter taste. It is slightly soluble in water, almost insoluble in ethanol and ether, and readily soluble in dilute acid or alkali solutions.

III. Differentiation

1. Infrared absorption spectrum: The infrared spectrum of this product is consistent with that of the reference substance.
2. Thin-layer chromatography: The position, color, and size of the spots in the test sample are consistent with those of the reference standard.
3. Optical rotation: Meets the specifications for this product; confirms identification as the L-isomer.

IV. Physicochemical Properties (Compliant with USP Standards)

surveillance project	Standard Requirements
Content (based on dry weight)	98.5% ~ 101.5%
Specific rotation $[\alpha]$	+14.9° ~ +17.3°
pH (1% aqueous solution)	5.5 ~ 7.0
Drying loss	≤0.2%
ignited residue	≤0.4%
chlorid	≤0.05%
Sulfate	≤0.03%
ammonium salt	≤0.02%
Iron salts	≤10ppm
Heavy metals (expressed as Pb)	≤10ppm
Arsenic (expressed as As)	≤1ppm
Single unknown impurity	≤0.5%
total impurities	≤2.0%

V. Microbial Indicators

surveillance project	Standard Requirements
total numbers of colony	≤ 1000 CFU/g
Fungi and yeasts	≤ 100 CFU/g
coli group	negative
colibacillus	Not detectable
salmonella	Not detectable
Staphylococcus aureus	Not detectable

VI. Packaging Specifications

Standard packaging: 25 kg per cardboard drum, with a double-layer food-grade PE plastic bag inside for moisture-proof sealing. Customized small packages are available upon customer request. All packaging meets food-grade contact material standards.

VII. Storage and Shelf Life

Storage conditions: Store in a sealed container in a cool, dry, and well-ventilated place, away from high temperatures, humidity, direct sunlight, and exposure to toxic or hazardous substances.

Shelf life: For unopened products under normal storage conditions, the shelf life is 24 months.

VIII. Product Uses

For use in food nutritional fortification, amino acid compound powders, sports nutrition products, solid beverages, baked goods, health foods, feed, and pet food ingredients.

IX. Quality Assurance

This product is manufactured strictly in accordance with USP pharmacopoeia standards and relevant food additive regulations. Each batch undergoes comprehensive testing, ensuring stable quality, safety compliance, and the provision of corresponding COA test reports for each batch.