

FEATURED PRODUCT

L-Phenylalanine (L-Phe)

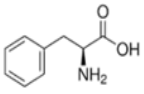
INTRODUCTION:

L-Phenylalanine (L-Phe) is an essential and proteinogenic amino acid that helps build proteins and produces brain chemicals like dopamine and norepinephrine.
L-Phenylalanine is one of the 20 standard amino acids that form long chains called polypeptides (proteins). The body cannot produce it, so it must be obtained through diet or supplements.

MANUFACTURE:

L-Phe is primarily produced through microbial fermentation using genetically engineered bacteria such as E. coli or Corynebacterium glutamicum. The bacteria are cultured in a nutrient-rich medium containing glucose, which they convert into L-Phenylalanine.

KEY DETAILS:

Synonym	(2S)-2-amino-3-phenylpropanoic acid ; 3-Phenyl-L-alanine; (S)-2-Amino-3-phenylpropionic acid ; H-Phe-OH; L-Phe
CAS no.	63-91-2
EINECS no.	200-568-1
Molecular formula	$C_9H_{11}NO_2$
Molecular weight	165.19 g/mol
Structure	

APPLICATION:

L-Phe is widely used in various fields due to its role as an essential amino acid. It plays a key role in mood regulation, cognitive function, and overall nervous system health.

Protein Supplement

- Used in dietary supplements as it's an essential amino acid needed for protein synthesis.

Precursor for Neurotransmitters

- Converts into tyrosine, which is further used to make dopamine, norepinephrine, and epinephrine — important for mood, alertness, and stress response.

Food Industry (Aspartame Production)

- A key ingredient in making L-Aspartame, a low- calorie artificial sweetener.

Treatment for Depression and ADHD

- Sometimes used as a supplement to help manage symptoms.

Support in Skin Disorders (e.g., Vitiligo)

- Studied for its role in melanin production when combined with UV light therapy.

Medical Nutrition

- Included in special medical foods for people with metabolic disorders like PKU (Phenylketonuria) in a very controlled amou

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SPECIFICATIONS:

Test	Unit	Specification
Appearance	-	White crystals or crystalline powder
Identification (By IR)	-	Should conform to the IR absorption of reference standard
Residue on ignition	%	NMT 0.4
Chloride (Cl)	%	NMT 0.05
Sulfate (SO_4)	%	NMT 0.03
Iron (Fe)	ppm	NMT 30.0
Heavy Metals	ppm	NMT 15.0
Lead (Pb)	ppm	NMT 1.0
Related compounds		
• Individual Impurity	%	NMT 0.5
• Total Impurities	%	NMT 2.0
Specific rotation (αD25)	°	-32.7 to -34.7
pH	-	5.4 – 6.0
Loss on drying	%	NMT 0.30
Total Plate Count	cfu/g	NMT 1000
Assay	%	98.5 – 101.5

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STORAGE & PRECAUTION:
Keep container tightly closed in a dry and well-ventilated place.

PACKING:
35 Kgs & 50 Kgs HDPE drum.

REACH STATUS:
Registered

ICS offers L-Phenylalanine (L-Phe) on commercial scales and welcomes enquiries. No matter the quantity you need, our exceptional quality & services will make ICS your supplier of choice. For additional information or Safety Data Sheet (SDS), please contact us at- info@itsusainc.com or Phone# 713-337-0152.

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