



CERTIFICATE OF ANALYSIS

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1. Identification

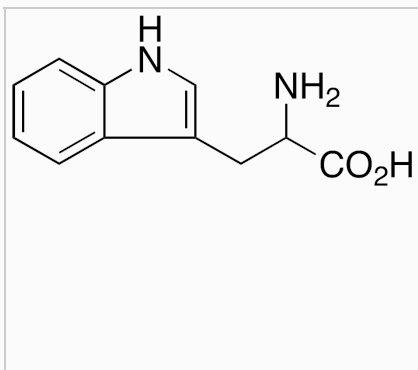
Catalogue Number: T947200

CAS Number: 54-12-6

Product: D,L-Tryptophan

Synonym: (+/-)-Tryptophan; 1H-Indole-3-alanine; DL- α -Amino-3-indolepropionic Acid; NSC 13118;

Structure:



Molecular Formula:

$C_{11}H_{12}N_2O_2$

Molecular weight:

204.23

Source of Product:

N/A

Solubility:

3.8 mg/mL in Aqueous Base,
Only Soluble in Aqueous Base

Lot Number: 1-AMZ-103-1

Purity: 98%

Shipping Condition: This Product Is Stable To Be
Shipped At Room Temperature

Storage Condition: 4°C

2. Warning

Warning 1:

Warning 2:

Warning 3:

3. Analytical Information

| Tests: | Specifications: | Results: |
|--------------------|--------------------------|--------------------------------|
| Appearance | White to Off-White Solid | White Solid |
| NMR | Conforms to Structure | Conforms |
| MS | Conforms to Structure | Conforms |
| Elemental Analysis | Conforms | %C: 65.06, %H: 5.89, %N: 13.63 |
| HPLC Purity | Report Result | 100.00% (220 nm) |

Additional Information: N/A

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of $\pm 2\%$. Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

4. Signatures

| Reviewed By | Reviewed By | C of A Approved By | Test Date | Retest Date |
|-----------------|---------------|--------------------|-----------|-------------|
| Farnaz Mahmoudi | Toni Rantanen | Chanell Chu | 1/22/2023 | 1/20/2030 |