

# LIFTMODE

LIFTMODE  
47 W. Polk St. STE 100-241  
Chicago, IL 60605

liftmode@liftmode.com  
www.liftmode.com

## CERTIFICATE OF ANALYSIS

### L-Tryptophan

(2-Amino-3-(1H-indol-3-yl)propanoic Acid)

Material Lot #: 36160302  
Country of Origin: China

Manufacture Date: 03/02/2016  
Expiration Date: 03/01/2019

| Analysis     | Claim  | Result |
|--------------|--------|--------|
| L-Tryptophan | ≥99.0% | 99.57% |

| Test                  | Specification             | Result     |
|-----------------------|---------------------------|------------|
| Appearance            | White to yellowish powder | Complies   |
| Specific Rotation     | -29.4°-32.8°              | -31.1°     |
| Residue on Ignition   | ≤0.1%                     | 0.05%      |
| Loss on Drying        | ≤0.3%                     | 0.13%      |
| Chloride              | ≤0.05%                    | Complies   |
| Sulfate               | ≤0.03%                    | Complies   |
| Iron                  | ≤0.003%                   | Complies   |
| pH                    | 5.5-7.0                   | 5.6        |
| Heavy Metals          | ≤15 ppm                   | Complies   |
| Lead                  | ≤1 ppm                    | Complies   |
| Arsenic               | ≤1 ppm                    | Complies   |
| Cadmium               | ≤1 ppm                    | Complies   |
| Mercury               | ≤1 ppm                    | Complies   |
| Total Plate Count     | ≤1000 cfu/g               | <100 cfu/g |
| E.Coli                | Negative                  | Complies   |
| Salmonella            | Negative                  | Complies   |
| Staphylococcus aureus | Negative                  | Complies   |
| Yeast and mold        | ≤200 cfu/g                | Complies   |

L-Tryptophan should be stored at or below room temperature in a tightly sealed durable container.  
L-Tryptophan should be protected from excess heat, direct sunlight, excess humidity and moisture.  
L-Tryptophan has a stable shelf life of 3 years from the date of manufacture when properly stored.

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|              |              |                    |          |
|--------------|--------------|--------------------|----------|
| Product Name | L-Tryptophan | Product Lot Number | 36160302 |
| Report Date  | 12/22/16     | Laboratory Number  | 8044     |

| Test                 | Method               | Results         |
|----------------------|----------------------|-----------------|
| L-Tryptophan         | CA-125 (HPLC-UV)     | 100.5%          |
| Standard Plate Count | AOAC 966.23          | 20 CFU / g      |
| Coliform Count       | AOAC 991.14          | < 10 CFU / g    |
| E. Coli Count        | AOAC 991.14          | < 10 CFU / g    |
| Salmonella           | Modified AOAC 998.09 | Negative / 25 g |
| Yeast and Mold       | FDA BAM              | <10/<10 CFU / g |
| Lead                 | ICP-MS USP <730>     | 0.011 ppm       |
| Arsenic              | ICP-MS USP <730>     | <0.001 ppm      |
| Cadmium              | ICP-MS USP <730>     | 0.001 ppm       |
| Mercury              | ICP-MS USP <730>     | 0.001 ppm       |

Connor Holt  
QA Auditor

12/22/2016  
Date

Connor Holt

12-22-16