

CERTIFICATE OF ANALYSIS

Product : **ALANINE (L-)**
 Product number : A0703
 Batch number : 015414
 Date of analysis : 06-05-2020
 Date of expiry : 31-05-2024

Packaging and storage : in a well closed container, protected from light

| | SPECIFICATION | RESULT | UNITS | REMARKS |
|---------------------------------|--|----------|-------|----------------------|
| Appearance | white or almost white crystalline powder, or colourless crystals | complies | | |
| Identification: | | | | |
| - A (specific optical rotation) | +14.2 – +15.2 | +14.4 | ° | dried substance |
| - B (IR-spectrum) | conform | complies | | |
| Appearance of solution | clear and colourless | Complies | | 1 M H ₂ O |
| Ninhydrin-positive substances | ≤ 0.1 | complies | | TLC |
| Chlorides | ≤ 100 | complies | ppm | |
| Sulphates | ≤ 100 | complies | ppm | |
| Ammonium | ≤ 100 | complies | ppm | |
| Iron | ≤ 5 | complies | ppm | |
| Heavy metals | ≤ 10 | complies | ppm | |
| Loss on drying | ≤ 0.2 | < 0.1 | % | 105 °C |
| Assay | ≥ 99.0 | 99.9 | % | dried substance |

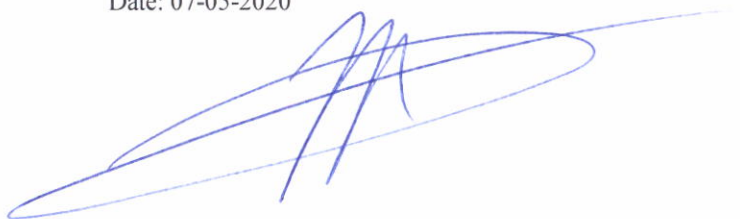
This certificate of analysis is conform the results of the supplier.

Conclusion: approved

Released by:

drs. M. van Wissen, pharmacist
Department of Quality Control Duchefa B.V.

Date: 07-05-2020



The buyer is responsible to test each batch to ensure the product is suitable for their specific purpose.

Duchefa Biochemie B.V.