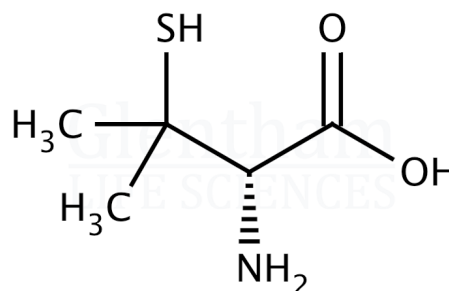


## Certificate of Analysis

|                   |                                 |
|-------------------|---------------------------------|
| Product Name      | D-Penicillamine, Ph. Eur. grade |
| Glentham Code     | GA1554                          |
| CAS Number        | 52-67-5                         |
| EINECS            | 200-148-8                       |
| MDL-Nummer        | MFCD00064302                    |
| Batch Number      | 713ZCD                          |
| Molecular Weight  | 149.21                          |
| Molecular Formula | $C_5H_{11}NO_2S$                |
| Storage Temp.     | +4°C                            |



| Property                       | Specification                            | Batch 713ZCD         |
|--------------------------------|------------------------------------------|----------------------|
| Physical Description           | White or almost white crystalline powder | Entspricht           |
| Identification                 | To pass tests A, B, C, D                 | Entspricht           |
| Solubility (10% in water)      | Clear solution                           | Entspricht           |
| Appearance of Solution         | To pass test                             | Entspricht           |
| pH (1% in water)               | 4.5 - 5.5                                | 5.0                  |
| Specific Optical Rotation      | -61.0 - -65.0 ° (c=5, 1M NaOH)           | -62.1 °              |
| UV Absorbing Substances        | ≤ 0.07                                   | 0.001                |
| Impurity A                     | ≤ 1.0%                                   | Entspricht           |
| Impurity B                     | ≤ 0.1ppm                                 | Entspricht           |
| Mercury (Hg)                   | ≤ 10ppm                                  | Entspricht           |
| Loss on Drying                 | ≤ 0.5%                                   | 0.0%                 |
| Sulphated Ash                  | ≤ 0.1%                                   | 0.0%                 |
| Any Unspecified Impurity       | ≤ 0.1%                                   | 0.10%                |
| Total Impurities               | ≤ 1.5%                                   | 0.1%                 |
| Assay                          | 98.0 - 101.0 % (dried substance)         | 100.3%               |
| Pharmacopoeia Specification(s) | Ph. Eur.                                 | Conforms to Ph. Eur. |

|                       |            |
|-----------------------|------------|
| Specification Version | v1.0       |
| Manufacture Date      | 2018-06-27 |
| Re-Test Date          | 2023-11-05 |

Glentham Life Sciences confirm that the above referenced product conformed to the information displayed in this document on the quality release date. Please check [www.glentham.com](http://www.glentham.com) or contact us using the details above for the current version of this document.

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