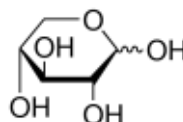


# Certificate of Analysis

Product Name:

D-(+)-Xylose - BioUltra, ≥99.0% (sum of enantiomers, HPLC)

**Product Number:** 95729  
**Batch Number:** BCCM1683  
**Brand:** SIGMA  
**CAS Number:** 58-86-6  
**Formula:** C<sub>5</sub>H<sub>10</sub>O<sub>5</sub>  
**Formula Weight:** 150.13 g/mol  
**Quality Release Date:** 30 AUG 2024  
**Recommended Retest Date:** JAN 2028



| Test                                             | Specification               | Result     |
|--------------------------------------------------|-----------------------------|------------|
| Appearance (Color)                               | Colorless or White          | White      |
| Appearance (Form)                                | Powder or Crystals          | Powder     |
| Purity (HPLC)                                    | ≥ 99.0 %                    | 99.5 %     |
| Specific Rotation<br>(20/D) C= 10 in Water (10h) | 19.0 - 21.0 deg             | 19.8 deg   |
| Melting Point                                    | 144 - 155 °C                | 151 °C     |
| Loss on Drying                                   | ≤ 0.2 %                     | 0.0 %      |
| Sulphated Ash                                    | ≤ 0.2 %                     | 0.0 %      |
| Infrared Spectrum                                | Conforms to Structure       | Conforms   |
| Metal Trace Analysis (ICP)                       | Corresponds to Requirements | Pass       |
| Aluminum (Al)                                    | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Barium (Ba)                                      | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Bismuth (Bi)                                     | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Calcium (Ca)                                     | ≤ 10 mg/kg                  | < 10 mg/kg |
| Cadmium (Cd)                                     | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Cobalt (Co)                                      | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Chromium (Cr)                                    | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Copper (Cu)                                      | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Iron (Fe)                                        | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Potassium (K)                                    | ≤ 50 mg/kg                  | < 50 mg/kg |
| Lithium (Li)                                     | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Magnesium (Mg)                                   | ≤ 5 mg/kg                   | < 5 mg/kg  |
| Manganese (Mn)                                   | ≤ 5 mg/kg                   | < 5 mg/kg  |

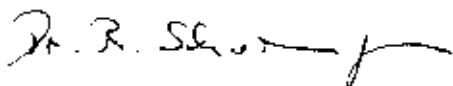
Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



## Certificate of Analysis

Product Number: 95729  
Batch Number: BCCM1683

| Test                                                                                  | Specification               | Result      |
|---------------------------------------------------------------------------------------|-----------------------------|-------------|
| Molybdenum (Mo)                                                                       | ≤ 5 mg/kg                   | < 5 mg/kg   |
| Sodium (Na)                                                                           | ≤ 50 mg/kg                  | < 50 mg/kg  |
| Nickel (Ni)                                                                           | ≤ 5 mg/kg                   | < 5 mg/kg   |
| Lead (Pb)                                                                             | ≤ 5 mg/kg                   | < 5 mg/kg   |
| Strontium (Sr)                                                                        | ≤ 5 mg/kg                   | < 5 mg/kg   |
| Zinc (Zn)                                                                             | ≤ 5 mg/kg                   | < 5 mg/kg   |
| Arsenic (As)<br>(MHS-AAS)                                                             | ≤ 0.1 mg/kg                 | < 0.1 mg/kg |
| Total Sulfur<br>as SO <sub>4</sub> (ICP)                                              | ≤ 50 mg/kg                  | < 50 mg/kg  |
| Chloride (Cl)                                                                         | ≤ 50 mg/kg                  | < 50 mg/kg  |
| Appearance of solution<br>(Clear Colorless) 4.50 g in 30 ml H <sub>2</sub> O<br>(1 M) | Corresponds to Requirements | Corresponds |
| PH of Solution (PH)<br>4.50 g in 30 ml H <sub>2</sub> O (1 M)                         | 4.0 - 6.0                   | 5.0         |
| Filtered<br>(Filter Test) 4.50 g in 30 ml H <sub>2</sub> O (1 M)                      | No Residue                  | No Residue  |
| UV Absorbance 260nm                                                                   | ≤ 0.2                       | 0.1         |
| UV Absorbance 280nm                                                                   | ≤ 0.2                       | 0.1         |



Dr. Reinhold Schwenninger  
Quality Assurance  
Buchs, Switzerland CH

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