

# DIN EN ISO 17294-2:2024-12 (E)

## Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of selected elements including uranium isotopes (ISO 17294-2:2023, Corrected version 2024-02)

---

| <b>Contents</b>  | <b>Page</b> |
|--|-------------|
| European foreword.....   | 3           |
| Foreword.....  | 4           |
| <b>1 Scope</b> .....   | <b>5</b>    |
| <b>2 Normative references</b> .....  | <b>6</b>    |
| <b>3 Terms, definitions and symbols</b> .....  | <b>7</b>    |
| 3.1 Terms and definitions.....   | 7           |
| 3.2 Symbols.....   | 10          |
| <b>4 Principle</b> .....   | <b>10</b>   |
| <b>5 Interferences</b> .....   | <b>11</b>   |
| 5.1 General.....   | 11          |
| 5.2 Spectral interferences.....  | 12          |
| 5.2.1 General.....   | 12          |
| 5.2.2 Isobaric elemental.....  | 13          |
| 5.2.3 Polyatomic interferences.....  | 13          |
| 5.3 Non-spectral interferences.....  | 13          |
| <b>6 Reagents</b> .....  | <b>14</b>   |
| <b>7 Apparatus</b> .....   | <b>18</b>   |
| <b>8 Sampling</b> .....  | <b>19</b>   |
| <b>9 Sample pre-treatment</b> .....  | <b>19</b>   |
| 9.1 Determination of the mass concentration of dissolved elements without digestion.....                         | 19          |
| 9.2 Determination of the total mass concentration after digestion.....   | 20          |
| <b>10 Procedure</b> .....  | <b>20</b>   |
| 10.1 General.....  | 20          |
| 10.2 Calibration of the ICP-MS system.....   | 21          |
| 10.3 Measurement of the matrix solution for evaluation of the correction factors.....                            | 21          |
| 10.4 Measurement of the samples.....   | 21          |
| <b>11 Calculation</b> .....  | <b>21</b>   |
| <b>12 Test report</b> .....  | <b>22</b>   |
| <b>Annex A (normative) Determination of the mass concentration of uranium isotopes</b> .....                     | <b>23</b>   |
| <b>Annex B (informative) Description of the matrices of the samples used for the interlaboratory trial</b> ..... | <b>32</b>   |
| <b>Annex C (informative) Performance data</b> .....  | <b>35</b>   |
| <b>Bibliography</b> .....  | <b>38</b>   |