

# DIN EN ISO 13163:2024-11 (E)

## Water quality - Lead-210 - Test method using liquid scintillation counting (ISO 13163:2021)

---

| <b>Contents</b>  |  | <b>Page</b> |
|--|--|-------------|
| <b>European foreword</b> .....   |  | <b>3</b>    |
| <b>Foreword</b> .....  |  | <b>4</b>    |
| <b>Introduction</b> .....  |  | <b>5</b>    |
| <b>1 Scope</b> .....   |  | <b>7</b>    |
| <b>2 Normative references</b> .....  |  | <b>7</b>    |
| <b>3 Terms, definitions and symbols</b> .....                                      |  | <b>8</b>    |
| 3.1 Terms and definitions .....  |  | 8           |
| 3.2 Symbols and abbreviated terms .....  |  | 8           |
| <b>4 Principle</b> .....   |  | <b>9</b>    |
| <b>5 Sampling and storage</b> .....  |  | <b>11</b>   |
| <b>6 Procedure</b> .....   |  | <b>12</b>   |
| 6.1 Sample preparation for measurement .....                                       |  | 12          |
| 6.2 Sample measurement .....   |  | 12          |
| <b>7 Quality assurance and quality control program</b> .....                       |  | <b>12</b>   |
| 7.1 General .....  |  | 12          |
| 7.2 Variables that could influence the measurement .....                           |  | 12          |
| 7.3 Instrument quality control .....   |  | 12          |
| 7.4 Reagent interferences .....  |  | 13          |
| 7.5 Interference control .....   |  | 13          |
| 7.6 Method verification .....  |  | 13          |
| 7.7 Demonstration of analyst capability .....                                      |  | 13          |
| 7.8 Calibration .....  |  | 13          |
| <b>8 Expression of results</b> .....   |  | <b>14</b>   |
| 8.1 General .....  |  | 14          |
| 8.2 Sample recovery, activity and uncertainties .....                              |  | 15          |
| 8.3 Decision threshold .....   |  | 16          |
| 8.4 Detection limit .....  |  | 16          |
| 8.5 Limits of the coverage intervals .....   |  | 17          |
| 8.5.1 Limits of the probabilistically symmetric coverage interval .....            |  | 17          |
| 8.5.2 The shortest coverage interval .....   |  | 17          |
| <b>9 Test report</b> .....   |  | <b>17</b>   |
| <b>Annex A (informative) Separation and purification of <sup>210</sup>Pb</b> ..... |  | <b>19</b>   |
| <b>Annex B (informative) Spectra examples</b> .....                                |  | <b>24</b>   |
| <b>Bibliography</b> .....  |  | <b>26</b>   |