

# ISO 22964:2017-04 (E)

## Microbiology of the food chain - Horizontal method for the detection of Cronobacter spp.

---

| <b>Contents</b>     |  | <b>Page</b> |
|---------------------|--|-------------|
| Foreword .....      |  | iv          |
| Introduction .....  |  | v           |
| 1                   | Scope .....  | 1           |
| 2                   | Normative references .....   | 1           |
| 3                   | Terms and definitions .....  | 1           |
| 4                   | Abbreviated terms .....  | 2           |
| 5                   | Principle .....  | 2           |
| 5.1                 | Non-selective pre-enrichment in BPW .....  | 2           |
| 5.2                 | Enrichment in a selective medium (CSB) .....   | 2           |
| 5.3                 | Plating out and identification on chromogenic agar (CCI agar) .....                  | 2           |
| 5.4                 | Confirmation .....   | 2           |
| 6                   | Culture media and reagents .....   | 2           |
| 7                   | Equipment and consumables .....  | 2           |
| 8                   | Sampling .....   | 3           |
| 9                   | Preparation of test sample .....   | 3           |
| 10                  | Procedure (as shown in Annex A) .....  | 3           |
| 10.1                | Test portion .....   | 3           |
| 10.2                | Pre-enrichment .....   | 4           |
| 10.3                | Enrichment .....   | 4           |
| 10.4                | Isolation of presumptive Cronobacter spp .....                                       | 4           |
| 10.5                | Confirmation .....   | 4           |
| 10.5.1              | General .....  | 4           |
| 10.5.2              | Purification of colonies .....   | 5           |
| 10.5.3              | Biochemical confirmation .....   | 5           |
| 10.6                | Interpretation of biochemical results .....  | 6           |
| 11                  | Expression of results .....  | 6           |
| 12                  | Performance characteristics of the method .....                                      | 7           |
| 12.1                | Interlaboratory study .....  | 7           |
| 12.2                | Sensitivity .....  | 7           |
| 12.3                | Specificity .....  | 7           |
| 12.4                | LOD50 .....  | 7           |
| 13                  | Test report .....  | 7           |
| Annex A (normative) | Diagram of the test procedure .....  | 8           |
| Annex B (normative) | Composition, preparation and performance testing of culture media and reagents ..... | 9           |

|  |           |
|--|-----------|
| <b>Annex C (informative) Distinction of Cronobacter spp. from other genera .....</b>         | <b>17</b> |
| <b>Annex D (informative) Method validation studies and performance characteristics .....</b> | <b>19</b> |
| <b>Bibliography .....</b>  | <b>22</b> |