

# ISO 14644-18:2023-10 (E)

## Cleanrooms and associated controlled environments - Part 18: Assessment of suitability of consumables

---

| <b>Contents</b>     |  | <b>Page</b> |
|---------------------|--|-------------|
| <b>Foreword</b>     |  | <b>v</b>    |
| <b>Introduction</b> |  | <b>vi</b>   |
| <b>1</b>            | <b>Scope</b>   | <b>1</b>    |
| <b>2</b>            | <b>Normative references</b>  | <b>2</b>    |
| <b>3</b>            | <b>Terms and definitions</b>   | <b>2</b>    |
| <b>4</b>            | <b>Description and cleanroom suitability properties of consumables</b> | <b>5</b>    |
| 4.1                 | Types of consumables   | 5           |
| 4.2                 | Properties of consumables  | 5           |
| 4.2.1               | General  | 5           |
| 4.2.2               | Functional performance properties                                      | 5           |
| 4.2.3               | Cleanliness attributes   | 6           |
| 4.2.4               | Special properties   | 6           |
| 4.3                 | Intended use   | 6           |
| 4.4                 | Consumable use   | 7           |
| 4.4.1               | Single-use   | 7           |
| 4.4.2               | Multiple-use   | 7           |
| <b>5</b>            | <b>Contaminant of concern</b>  | <b>7</b>    |
| 5.1                 | General  | 7           |
| 5.2                 | Emission of contaminants into the air                                  | 7           |
| 5.3                 | Surface contamination by contact transfer                              | 7           |
| 5.4                 | Surface contamination via liquids                                      | 7           |
| <b>6</b>            | <b>Cleanroom suitability assessment prerequisites</b>                  | <b>8</b>    |
| 6.1                 | General  | 8           |
| 6.2                 | Considerations   | 8           |
| 6.3                 | Associated risks   | 8           |
| 6.4                 | Requirements, properties and cleanliness attributes                    | 8           |
| 6.5                 | Sustainability   | 9           |
| <b>7</b>            | <b>Customer requirements</b>   | <b>9</b>    |
| 7.1                 | General  | 9           |
| 7.2                 | Description and intended use   | 9           |
| 7.3                 | Requirements for consumable assessment                                 | 9           |
| 7.3.1               | Functional performance properties                                      | 9           |
| 7.3.2               | Cleanliness attributes   | 10          |
| 7.3.3               | Special properties   | 10          |
| <b>8</b>            | <b>Consumable properties as designed by the supplier</b>               | <b>11</b>   |
| 8.1                 | General  | 11          |
| 8.2                 | Description and designed use   | 11          |
| 8.3                 | Consumable properties and attributes                                   | 11          |
| 8.3.1               | Functional performance properties                                      | 11          |
| 8.3.2               | Cleanliness attributes   | 11          |
| 8.3.3               | Special properties   | 12          |
| 8.4                 | Supplier quality documentation   | 12          |
| <b>9</b>            | <b>Assessment</b>  | <b>12</b>   |
| 9.1                 | General  | 12          |
| 9.2                 | Initial comparison   | 13          |

|  |                                       |           |
|--|---------------------------------------|-----------|
| 9.3  | Detailed comparison.....              | 13        |
| 9.4  | Cleanroom suitability assessment..... | 13        |
| 9.5  | Implementation.....                   | 13        |
| <b>10</b>  | <b>Documentation.....</b>             | <b>14</b> |
| 10.1   | General.....                          | 14        |
| 10.2   | Initial customer's documentation..... | 14        |
| 10.3   | Supplier documentation.....           | 14        |
| 10.4   | Assessment documentation.....         | 15        |
| <b>Annex A (informative) Personal and non-personal consumables .....</b>                 |                                       | <b>16</b> |
| <b>Annex B (informative) Impact of consumables on cleanroom cleanliness levels .....</b> |                                       | <b>18</b> |
| <b>Annex C (informative) Test methods.....</b>   |                                       | <b>22</b> |
| <b>Annex D (informative) Worked examples.....</b>  |                                       | <b>29</b> |
| <b>Bibliography.....</b>   |                                       | <b>37</b> |