



**उत्पाद मानुयल  
सामान्य ब्यूटाइल ऐसीटेट—  
IS 230: 2025 के अनुसार**

**PRODUCT MANUAL FOR  
NORMAL BUTYL ACETATE—  
SPECIFICATION  
According to IS 230: 2025**

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। इस दस्तावेज़ के उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification.

|    |                                                                                                     |   |                                                                                                                                                                                |
|----|-----------------------------------------------------------------------------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <b>उत्पाद</b><br>Product                                                                            | : | IS 230: 2025                                                                                                                                                                   |
|    | <b>शीर्षक</b><br>Title                                                                              | : | NORMAL BUTYL ACETATE- SPECIFICATION                                                                                                                                            |
|    | <b>संशोधन संख्या</b><br>No. of amendments                                                           | : | 0                                                                                                                                                                              |
| 2. | <b>नमूनाकरण दिशा निर्देश</b><br>Sampling Guidelines                                                 | : | -                                                                                                                                                                              |
| a) | <b>कच्चा माल</b><br>Raw material                                                                    | : | No Specific Requirement                                                                                                                                                        |
| b) | <b>समूहिकरण दिशा निर्देश</b><br>Grouping Guidelines                                                 | : | Please refer Annexure - A                                                                                                                                                      |
| c) | <b>नमूने का परिमाण</b><br>Sample Size                                                               | : | 1 L                                                                                                                                                                            |
| d) | <b>परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर</b><br>Parameters to be Declared in Test Request | : | i) Name of the product<br>ii) Grade: Grade 1/Grade 2<br>Note: Apart from the above, any other requirements/parameters may also be declared as per the standard, as applicable. |

|    |                                                                                                                                                                                                           |                        |                           |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------|
| 3. | <b>परीक्षण उपकरणों की सूची</b><br>List of Test Equipment                                                                                                                                                  | :                      | Please refer Annexure - B |
| 4. | <b>निरीक्षण व परीक्षण स्कीम</b><br>Scheme of Inspection and Testing                                                                                                                                       | :                      | Please refer Annexure - C |
| 5. | <b>एक दिन में संभावित परीक्षण</b><br>Possible tests in a day                                                                                                                                              | :                      | All Tests                 |
| 6. | <b>लाइसेन्स का कार्यक्षेत्र</b><br>Scope of the Licence :                                                                                                                                                 |                        |                           |
|    | IS 230: 2025 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्रके लिए प्रदान किया जाता है<br>Licence is granted to use Standard Mark as per IS 230: 2025 with the following scope: |                        |                           |
|    | <b>Name of the product</b>                                                                                                                                                                                | NORMAL BUTYL ACETATE   |                           |
|    | <b>Grade</b>                                                                                                                                                                                              | Grade 1 and/or Grade 2 |                           |

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**ANNEX-A**

**GROUPING GUIDELINES**

1. Each grade intended to be covered in the scope of the licence is to be tested.
2. Scope of licence shall be restricted based on the manufacturing and testing facilities available.
3. During operation of licence, samples of each grade covered in the scope of licence, shall be tested in rotation, to the extent possible

**ANNEXURE B**  
**LIST OF TEST EQUIPMENT**

(INDICATIVE LIST, FOR GUIDANCE ONLY)

| Sl No. | Test Used in with Clause Reference                              | Test Equipment/Chemical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Ester content (as n-butyl acetate), Clause 4.2 Table 1,Sl.No i) | <p>Method A</p> <ol style="list-style-type: none"> <li>1. Standard Alcoholic Sodium Hydroxide Solution</li> <li>2. Standard Hydrochloric Acid —</li> <li>3. Phenolphthalein Indicator</li> <li>4. Weighing Balance</li> <li>5. Reflux condenser</li> <li>6. Burette</li> </ol> <p>Method B</p> <ol style="list-style-type: none"> <li>1. Gas Chromatograph with Flame Ionization detector, a split injector, and prescribed column as per ISS</li> <li>2. Nitrogen/helium gas</li> <li>3. n-Butyl Acetate with known purity</li> <li>4. n-Butanol-Pure</li> </ol> |
| 2      | Relative density at 27°C/27 °C, Clause 4.2 Table 1,Sl.No ii)    | <ol style="list-style-type: none"> <li>1. Relative density bottles (Regnault type or Pycnometer)</li> <li>2. Weighing balance</li> <li>3. Water bath</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3      | n-Butanol, Clause 4.2 Table 1,Sl.No iii)                        | <ol style="list-style-type: none"> <li>1. Gas Chromatograph with Flame Ionization detector, a split injector, and prescribed column as per ISS</li> <li>2. Nitrogen/helium gas</li> <li>3. n-Butyl Acetate with known purity</li> <li>4. n-Butanol-Pure</li> </ol>                                                                                                                                                                                                                                                                                                |
| 4      | Acidity (as acetic acid), Clause 4.2 Table 1,Sl.No iv)          | <ol style="list-style-type: none"> <li>1. Rectified spirit</li> <li>2. Standard Sodium Hydroxide Solution</li> <li>3. Phenolphthalein Indicator</li> <li>4. Burette</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                    |
| 5      | Residue on evaporation, Clause 4.2 Table 1,Sl.No v)             | <ol style="list-style-type: none"> <li>1. Oven</li> <li>2. Evaporating Dish (Platinum/Aluminium/Porcelain)</li> <li>3. Desiccator</li> <li>4. Steam bath/ Hot Plate</li> <li>5. Weighing Balance</li> </ol>                                                                                                                                                                                                                                                                                                                                                       |
| 6      | Distillation range, Clause 4.2 Table 1,Sl.No vi)                | <ol style="list-style-type: none"> <li>1. Distillation apparatus with distillation flask, temperature measuring device, distillation receiver, condenser, draught screen, asbestos board, source of heat</li> </ol>                                                                                                                                                                                                                                                                                                                                               |
| 7      | Water content, Clause 4.2 Table 1,Sl.No vii)                    | <ol style="list-style-type: none"> <li>1. Karl Fischer Titrator</li> <li>2. Pipette</li> <li>3. Karl Fischer Reagent</li> <li>4. Methanol</li> <li>5. 2- Methaoxyethanol</li> <li>6. Iodine</li> <li>7. Pyridine</li> <li>8. Sulphur dioxide</li> <li>9. Sodium Tartarate</li> <li>10. Aluminium Silicate/ Activated Silica</li> </ol>                                                                                                                                                                                                                            |
| 8      | Colour, Clause 4.2 Table 1,Sl.No viii)                          | <ol style="list-style-type: none"> <li>1. Cobaltous Chloride Hexahydrate</li> <li>2. HCL</li> <li>3. Potassium Chloroplatinate or Chloroplatinic Acid</li> <li>4. Nessler tubes</li> <li>5. Colour comparator/colorimeter/ Spectrophotometer</li> </ol>                                                                                                                                                                                                                                                                                                           |

**ANNEXURE C**  
**SCHEME OF INSPECTION AND TESTING**

**1. QUALITY ASSURANCE PLAN**

- 1.1.** It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.
- 1.2.** The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.
- 1.3. RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:**
  - 1.3.1.** For the guidance of manufacturers, the recommended definition of control unit is the entire quantity of the product produced in a batch at a time shall constitute a control unit.
  - 1.3.2.** For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in Table 1.
  - 1.3.3.** The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.
- 1.4.** However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

**2. ENSURING COMPLIANCE THROUGH TESTING-** Manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing all the parameters of the Indian Standard for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer.

- 2.1.** For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates tests where test equipment is required in house as “R”. Manufacturers shall also implement a calibration plan for the in-house test equipment.

- 2.2. TEST RECORDS-** The manufacturers shall maintain test records for the tests carried out to establish conformity. The same shall be available for inspection by BIS.

**3. PACKING AND MARKING -** The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on the container, provided always that the material so marked conforms to each requirement of the specification.

- 3.1.** Packing and Marking shall be done as per the Indian Standard.
- 3.2.** If material is supplied in tank cars, tank trucks, container ships etc. the Standard Mark as given in Schedule of the licence and Licence Number (i.e. CM/L ) shall be incorporated on a test certificate to be provided along with each tank car/tank truck/container ship as per the format at Appendix-1 enclosed, provided always that the product thus marked conforms to all the requirement of the specification. Packing shall be done as per provisions of Indian Standard and the marking details as per Cl 5.2 of IS 230: 2025 shall also be indicated on the test certificate.
- 3.3.** Additional Marking requirements: The material shall also be marked with the following additional requirement:
  - a) “For BIS certification details please visit [www.bis.gov.in](http://www.bis.gov.in)”.

**4. REJECTION -** All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016

**TABLE 1: LEVELS OF CONTROL**

| TEST DETAILS |                                    |             |           | Test equipment requirement<br>R: required<br>(or) S:<br>Subcontracting permitted | LEVELS OF CONTROL                                                                                                                                                                                                |                   | REMARKS |
|--------------|------------------------------------|-------------|-----------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|
| Clause       | Requirements                       | Test Method |           |                                                                                  | No. of Sample                                                                                                                                                                                                    | Frequency         |         |
|              |                                    | Clause      | Reference |                                                                                  |                                                                                                                                                                                                                  |                   |         |
| 4.1          | Description                        | 4.1         | IS 230    | R                                                                                | Firm to have adequate in-process controls to check compliance of this parameter as given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity |                   |         |
| 4.2          | Ester content (as n-butyl acetate) | Annex B     | IS 230    | R                                                                                | 1                                                                                                                                                                                                                | Each Control Unit | -----   |
| 4.2          | Relative density at 27 °C/27 °C    | Annex A     | IS 229    | R                                                                                | 1                                                                                                                                                                                                                | Each Control Unit | -----   |
| 4.2          | n-Butanol                          | Annex B     | IS 230    | R                                                                                | 1                                                                                                                                                                                                                | Each Control Unit | -----   |
| 4.2          | Acidity (as acetic acid)           | Annex C     | IS 230    | R                                                                                | 1                                                                                                                                                                                                                | Each Control Unit | -----   |
| 4.2          | Residue on evaporation             | Annex D     | IS 230    | R                                                                                | 1                                                                                                                                                                                                                | Each Control Unit | -----   |
| 4.2          | Distillation range                 | -           | IS 5298   | R                                                                                | 1                                                                                                                                                                                                                | Each Control Unit | -----   |
| 4.2          | Water content                      | -           | IS 2362   | R                                                                                | 1                                                                                                                                                                                                                | Each Control Unit | -----   |
| 4.2          | Colour                             | -           | IS 8768   | R                                                                                | 1                                                                                                                                                                                                                | Each Control Unit | -----   |

[illegible]