



उत्पाद मानुयल  
लॉरिक एसिड – विशिष्टि  
IS 10931:2023 के अनुसार

**PRODUCT MANUAL FOR  
LAURIC ACID - SPECIFICATION  
ACCORDING TO IS 10931:2023**

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरणके प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

**This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence 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 licence/certificate.**

|                                                                        |   |                                                      |
|------------------------------------------------------------------------|---|------------------------------------------------------|
| 1. उत्पाद<br><b>Product</b>                                            | : | IS 10931: 2023                                       |
| शीर्षक<br><b>Title</b>                                                 | : | लॉरिक एसिड – विशिष्टि<br>LAURIC ACID - SPECIFICATION |
| संशोधन संख्या<br><b>No. of Amendments</b>                              | : | Nil                                                  |
| 2. नमूनाकरण दिशा निर्देश<br><b>Sampling Guidelines:</b>                |   |                                                      |
| a) कच्चा माल<br>Raw material                                           | : | No specific requirement                              |
| b) समूहिकरण दिशा निर्देश<br>Grouping guidelines                        | : | कृपया Annex-ए देखें<br>Please see Annex – A          |
| c) नमूनेका परिमाण<br>Sample Size                                       | : | 500 g                                                |
| 3. परीक्षण उपकरणों की सूची<br><b>List of Test Equipment</b>            | : | कृपया Annex-B देखें<br>Please see Annex – B          |
| 4. निरीक्षण व परीक्षण स्कीम<br><b>Scheme of Inspection and Testing</b> | : | कृपया Annex-C देखें<br>Please see Annex – C          |

|                                      |                                                                                                                                                                                                                                                                             |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.                                   | एक दिन में संभावित परीक्षण<br><b>Possible tests in a day:</b><br>i) Description<br>ii) Fatty Acid composition<br>iii) Moisture, percent by mass<br>iv) Saponification value<br>v) Acid value<br>vi) Iodine value<br>vii) Unsaponifiable matter<br>viii) Titre<br>ix) Colour |
| 6.                                   | लाइसेन्स का कार्यक्षेत्र / <b>Scope of the Licence:</b>                                                                                                                                                                                                                     |
|                                      | <b>IS 10931:2023</b> 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 10931:2023 with the following scope:                                                         |
| उत्पाद का नाम<br>Name of the product | लॉरिक एसिड – विशिष्टि<br>Lauric Acid - Specification                                                                                                                                                                                                                        |
| <b>Grade</b>                         | Grade 1 and/or<br>Grade 2                                                                                                                                                                                                                                                   |

**BUREAU OF INDIAN STANDARDS**  
**Manak Bhawan, 9, Bahadur Shah Zafar Marg,**  
**New Delhi – 110002**

**ANNEX – A**  
**PRODUCT MANUAL FOR**  
**LAURIC ACID - SPECIFICATION**  
**ACCORDING TO IS 10931:2023**  
**GROUPING GUIDELINES**

1. The manufacturer shall declare the Grade of Lauric Acid which they intend to cover in their scope of licence.
2. The sample of each Grade of Lauric Acid shall be subjected to testing for considering grant of licence/inclusion of that grade.
3. It shall be ensured that the firm is having all the necessary manufacturing and testing facilities for the grades to be included in the licence.
4. During the operation of licence, BO shall ensure that all the Grades of Lauric Acid covered in the license are drawn for independent testing on rotation over a period of time.

**ANNEX -B**  
**PRODUCT MANUAL FOR**  
**LAURIC ACID - SPECIFICATION**  
**ACCORDING TO IS 10931:2023**

**List of Test Equipment**

*Major test equipment essentially required to test as per the Indian Standard*

| Sl. No. | Tests used in with Clause Reference | Test Equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Description, Clause 3.1             | (i) Hot plate<br>(ii) Beaker                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2       | Fatty Acid composition, Clause 4.3  | <p><b><u>Method A (Gas Chromatograph)</u></b></p> <p>(i) Gas Chromatograph as per Cl. 5.1.2.1 of IS 548 (Part 3/Sec 1): 2021</p> <p>(ii) Analytical balance</p> <p>(iii) Capillary column</p> <p>(iv) High purity carrier gas (Containing less 10 mg/kg Oxygen)</p> <p>(v) Auxiliary gas Hydrogen of 99.9 % minimum purity</p> <p>(vi) Reflux condenser</p> <p>(vii) Graduated pipette – 10 ml, 250 ml separating funnels</p> <p>(viii) Reference standards</p> <p>(ix) Methanolic Sodium hydroxide solution</p> <p>(x) Methanolic solution of boron trifluoride</p> <p>(xi) Heptane-chromatographic quality</p> <p>(xii) Redistilled petroleum ether 40 – 60 °C</p> <p>(xiii) Anhydrous sodium sulphate</p> <p>(xiv) Saturated solution of sodium chloride</p> <p>(xv) Methyl red</p> <p style="text-align: center;">Or</p> <p><b><u>Method B(Alternate method for preparing Methyl Esters)</u></b></p> <p>(i) Methanol containing not more than 0.5 percent water,</p> <p>(ii) Methanolic potassium hydroxide solution,</p> <p>(iii) Heptane chromatographic quality,</p> <p>(iv) Anhydrous sodium sulphate,</p> <p>(v) Nitrogen, containing not more than 0.5 mg/kg of oxygen</p> |
|         |                                     | <p><b><u>Air-Oven method</u></b></p> <p>(i) Moisture Dish</p> <p>(ii) Desiccator</p> <p>(iii) Air-oven</p> <p>OR</p> <p><b><u>Hot-Plate Method</u></b></p> <p>(i) Glass beaker — 100 to 150 ml capacity</p> <p>(ii) Small glass rod</p> <p>(iii) Desiccator</p> <p>(iv) Electric hot-plate</p> <p>OR</p> <p><b><u>Distillation Method</u></b></p> <p>(i) Apparatus as per Fig1 of IS 548(Part 1/Sec 2) consisting of</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|   |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                               | Flask, Condenser, Receiver(trap),<br>(ii) Potassium dichromate-sulphuric acid cleaning solution<br>(iii) Xylene or toluene<br><br>OR<br><br><u><b>Karl Fischer Method (Pyridine free)</b></u><br>(i) Karl Fischer apparatus<br>(ii) Analytical Balance readable to the nearest 0.1 mg<br>(iii) Karl Fischer reagent<br>(iv) Syringes (1 ml, 2 ml, 5 ml, 10 ml and 20 ml)                                                                                                              |
| 4 | Saponification Value,<br>Clause 4.2 and Table 1, Sl. No. (ii) | (i) Analytical balance,<br>(ii) Water-Bath or electric hot plate with rheostat control<br>(iii) Reflux Condensor<br>(iv) Burette<br>(v) Alcoholic potassium hydroxide,<br>(vi) Phenolphthalein indicator<br>(vii) Standard Hydrochloric Acid<br>(viii) Aldehyde-Free Rectified Spirit                                                                                                                                                                                                 |
| 5 | Acid value, Clause 4.2 and Table 1, Sl. No. (iii)             | (i) Analytical balance<br>(ii) 95 % (by Vol.) rectified spirit<br>(iii) Standardized NaOH (0.5N)<br>(iv) 0.1N, Phenolphthalein Indicator 1% w/v solution in rectified spirit<br>(v) Ethyl Alcohol<br>(vi) Standard Aqueous Potassium Hydroxide or Sodium Hydroxide                                                                                                                                                                                                                    |
| 6 | Iodine Value,<br>Clause 4.2 and Table 1, Sl. No. (iv)         | <u><b>WIJS method</b></u><br>(i) Analytical balance<br>(ii) Glacial Acetic acid<br>(iii) Chloroform<br>(iv) Iodine Monochloride,<br>(v) Potassium iodide solution,<br>(vi) Standard Sodium Thiosulphate<br>(vii) Starch Solution<br>(viii) Burette<br>(ix) Pipette<br>(x) Measuring Cylinder<br>(xi) Potassium Dichromate<br>(xii) Iodine Crystals, re-sublimed<br>(xiii) Chlorine Gas, dry<br>(xiv) Iodine Trichloride (ICl <sub>3</sub> )<br>(xv) Wijs Iodine monochloride Solution |
| 7 | Unsaponifiable Matter,<br>Clause 4.2 and Table 1, Sl. No. (v) | (i) Flat bottomed or conical flask<br>(ii) Separating funnel<br>(iii) Alcoholic KOH<br>(iv) Phenolphthalein indicator<br>(v) Ethyl Alcohol<br>(vi) Petroleum Ether<br>(vii) Aqueous Alcohol<br>(viii) Standard Sodium Hydroxide Solution<br>(ix) Acetone                                                                                                                                                                                                                              |

|   |                                                     |                                                                                                                                                                                                                                                                                                                                                                                 |
|---|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8 | Titre,<br>Clause 4.2 and<br>Table 1, Sl. No. (vi)   | (i) Water (or other liquid) bath<br>(ii) Saponification flask (250 ml)<br>(iii) 2 L Beaker<br>(iv) Wide mouth Bottle<br>(v) Titre test-tube<br>(vi) Glass stirrer<br>(vii) Thermometer (0-110 Deg C)<br>(viii) Corks<br>(ix) Titre Thermometer as per Cl. 13.1.8<br>(x) Glycerol-Caustic Potash<br>(xi) Dilute sulphuric acid<br>(xii) Methyl orange indicator<br>(xii) Acetone |
| 9 | Colour,<br>Clause 4.2 and<br>Table 1, Sl. No. (vii) | (i) Lovibond Tintometer or colorimeter<br>(ii) Filter Paper<br>(iii) 5 ¼ inch / ¼ inch / ½-inch Glass Cell.                                                                                                                                                                                                                                                                     |

**Note: The list above is indicative only and may not be treated as exhaustive.**

**ANNEX-C**  
**PRODUCT MANUAL FOR**  
**LAURIC ACID - SPECIFICATION**  
**ACCORDING TO IS 10931:2023**  
**Scheme of Inspection and Testing**

**1. LABORATORY**-A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

**1.1** The manufacturer shall prepare and implement a calibration plan for the test equipment.

**2. TEST RECORDS**-The manufacturer shall maintain test records for the tests carried out to establish conformity.

**3. PACKING AND MARKING** – The Standard Mark, as given in the Schedule of the licence, shall be marked on each container provided always that the product so marked conform to requirements of the specification.

**3.1 Packing** - The material shall be packed in accordance with the provisions of Clause 5.1 of IS 10931:2023.

**3.2 Marking** - The containers shall bear legibly and indelibly the information as mentioned under clause 5.2.1 of IS 10931:2023. In addition, the following details shall be mentioned on each container:

i) BIS Licence No. (CM/L .....)

ii) For details of BIS certification details please visit [www.bis.gov.in](http://www.bis.gov.in)’.

**4. CONTROL UNIT** – For the purpose of this scheme all the containers of the same Grade of Lauric Acid, in one day shall constitute a Control Unit.

**5. LEVELS OF CONTROL**-The tests as indicated in column 1 of Table-1 and the levels of control in column 3 of Table-1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

**5.1** All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

**6. REJECTION**-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)**  
**(Para 5 of Scheme of Inspection and Testing)**

| (1)                           |                          |                      |                              | (2)                                                                      | (3)                                                                                                                                                                                                         |                   |                  |
|-------------------------------|--------------------------|----------------------|------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|
| Clause                        | Requirements             | Test Method          |                              | Test equipment requirement R: required (or) S: Sub-contracting permitted | No of Samples                                                                                                                                                                                               | Frequency         | Remarks          |
|                               |                          | Test Method Cl. Ref. | Test MethodIS                |                                                                          |                                                                                                                                                                                                             |                   |                  |
| 4.1                           | Description              | 4.1                  | IS 10931                     | R                                                                        | Firm to have adequate in-process controls to check compliance of this parameter as per the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity |                   |                  |
| 4.3                           | Fatty Acid Composition   | 4.3                  | IS 548(Part 3/ Sec 1): 2021  | R                                                                        | One                                                                                                                                                                                                         | Every Four hours  | See Note-3 below |
| 4.2 and Table 1, Sl.No. (i)   | Moisture, percentby mass | 6                    | IS 548 (part 1/Sec 2) : 2021 | R                                                                        | One                                                                                                                                                                                                         | Each Control Unit |                  |
| 4.2 and Table 1, Sl.No. (ii)  | Saponificatio nvalue     | 16                   | IS 548 (part 1/Sec 2) : 2021 | R                                                                        | One                                                                                                                                                                                                         | Each Control Unit |                  |
| 4.2 and Table 1, Sl.No. (iii) | Acid value               | 8                    | IS 548 (part 1/Sec 2): 2021  | R                                                                        | One                                                                                                                                                                                                         | Each Control Unit |                  |
| 4.2 and Table 1, Sl.No. (iv)  | Iodine value             | 15                   | IS 548 (part 1/Sec 2): 2021  | R                                                                        | One                                                                                                                                                                                                         | Each Control Unit |                  |
| 4.2 and Table 1, Sl.No. (v)   | Unsaponifiabl ematter    | 9                    | IS 548 (part 1/Sec 2): 2021  | R                                                                        | One                                                                                                                                                                                                         | Each Control Unit |                  |
| 4.2 and Table 1, Sl.No. (vi)  | Titre                    | 13                   | IS 548 (part 1/Sec 2): 2021  | R                                                                        | One                                                                                                                                                                                                         | Each Control Unit |                  |
| 4.2 and Table 1, Sl.No.(vii)  | Colour                   | 14                   | IS 548 (part 1/Sec 2): 2021  | R                                                                        | One                                                                                                                                                                                                         | Every Four hours  |                  |

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.

Note -3: A sample shall be taken at the defined frequency, which shall be tested for Fatty Acid Composition. If the sample does not conform to the specification in any one or more of these requirements, the material manufactured during the prior to drawal of sample shall either be rejected or reprocessed for its conformity to these requirements of the specification.