



उत्पाद मैन्यूअल
COCONUT FATTY ACIDS - SPECIFICATION
IS 12069: 2023 के अनुसार

PRODUCT MANUAL FOR
COCONUT FATTY ACIDS - SPECIFICATION
ACCORDING TO IS 12069: 2023

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम 2018 के तहत यह उत्पाद मैन्यूअल प्रमाणीकरण के प्रचालन में रीति में पारदर्शिता और सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेन्सी द्वारा सन्दर्भ सामग्री के रूप में उपयोग किया जाएगा / बीआईएस प्रमाणीकरण लाइसेन्स/प्रमाण पत्र करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज 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 Product	IS 12069: 2023
	शीर्षक Title	COCONUT FATTY ACIDS — SPECIFICATION
	संशोधनों की संख्या No. of Amendments	NIL
2.	नमूनाकरण दिशानिर्देश Sampling Guidelines	
a	कच्चा माल Raw material	No specific requirement
b	समूहीकरण दिशानिर्देश Grouping guidelines	कृपया अनुबंध-ए देखें Please see Annex – A
c	नमूने का परिणाम Sample Size	500g
3.	परीक्षण उपकरण की सूची List of Test Equipment	कृपया अनुबंध- बी देखें Please see Annex – B

4.	निरीक्षण और परीक्षण की योजना Scheme of Inspection and Testing	कृपया अनुबंध- सी देखें Please see Annex – C
5.	एक दिन में संभावित परीक्षण Possible tests in a day:	i. Description ii. Moisture, percent by mass iii. Saponification value iv. Acid value v. Iodine value vi. Mineral acidity vii. Ash, percent by mass viii. Unsaponifiable matter ix. Titre x. Color xi. Flash point xii. Fatty acid
6.	लाइसेंस का कार्यक्षेत्र Scope of the Licence:	
	IS 12069:2023 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेंस निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया गया है Licence is granted to use Standard Mark as per IS 12069:2023 with the following scope:	
	उत्पाद का नाम Name of the product	Coconut Fatty Acids
	श्रेणी Grade	Grade-1 -Distilled grade and/or Grade-2 – Undistilled grade

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**ANNEX – A
TO THE PRODUCT MANUAL FOR
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GROUPING GUIDELINES

1. The manufacturer shall declare the Grade of Coconut Fatty Acids which they intend to cover in their scope of licence.
2. The sample of each Grade of Coconut Fatty Acids 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 Coconut Fatty Acids covered in the license are drawn for independent testing on rotation basis over a period of time.

ANNEX -B

**TO THE PRODUCT MANUAL FOR SPECIFICATION FOR COCONUT FATTY ACIDS
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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 4.1,4.2	i) Hot plate ii) Beaker
2.	Moisture Clause 4.3, Table 1, Sl.no (i)	Air-Oven method Moisture Dish Desiccator Air-oven OR Hot-Plate Method Glass beaker — 100 to 150 ml capacity (ii) Small glass rod (iii) Desiccator (iv) Electric hot-plate OR Distillation Method Apparatus as per Fig1 of IS 548(Part 1/Sec 2) consisting of Flask, Condenser, Receiver(trap), Potassium dichromate-sulphuric acid cleaning solution Xylene or toluene OR Karl Fischer Method (Pyridine free) Karl Fischer apparatus Analytical Balance readable to the nearest 0.1 mg, Syringes, of capacity 1 ml, 2 ml, 5 ml, 10 ml, and 20 ml; Karl Fischer reagents
3.	Saponification value Clause 4.3, Table 1, Sl.no (ii)	i) Analytical balance, (ii) Water-Bath or electric hot plate with rheostat control (iii) Reflux Condenser (iv) Burette, Pipette (v) Alcoholic potassium hydroxide, (vi) Phenolphthalein indicator (vii) Standard Hydrochloric Acid (viii) Aldehyde-Free Rectified Spirit Conical Flasks, 250 ml
4.	Acid value Clause 4.3, Table 1, Sl.no (iii)	i) Analytical balance (ii) 95 % (by Vol.) rectified spirit (iii) Standardized NaOH (0.5N)

		(iv) 0.1N, Phenolphthalein Indicator 1% w/v solution in rectified spirit (v) Ethyl Alcohol (vi) Standard Aqueous Potassium Hydroxide or Sodium Hydroxide
5.	Iodine value Clause 4.3, Table 1, Sl.no (iv)	WIJS method (i) Analytical balance (ii) Glacial Acetic acid (iii) Chloroform (iv) Iodine Monochloride, (v) Potassium iodide solution, (vi) Standard Sodium Thiosulphate (vii) Starch Solution (viii) Burette (ix) Pipette (x) Measuring Cylinder (xi) Potassium Dichromate (xii) Iodine Crystals, re-sublimed (xiii) Chlorine Gas, dry (xiv) Iodine Trichloride (ICl ₃) (xv) Wijs Iodine monochloride Solution Concentrated Hydrochloric Acid, conforming to IS 265 Chloroform
6.	Mineral acidity Clause 4.3, Table 1, Sl.no (v)	Methyl Orange Indicator Light Petroleum Ether separating funnel
7.	Ash Clause 4.3, Table 1, Sl.no (vi)	Platinum Crucible, Desiccator with efficient desiccant, such as fused calcium chloride Weighing balance Muffle furnace (550±10°C)
8.	Unsaponifiable matter Clause 4.3, Table 1, Sl.no (vii)	Flat-Bottomed or Conical Flask — 250 ml capacity, Separating Funnels — 500 ml, Alcoholic Potassium Hydroxide Solution, Ethyl Alcohol, Phenolphthalein Indicator Solution, Petroleum Ether, Aqueous Alcohol, Standard Sodium Hydroxide Solution, Acetone
9.	Titre Clause 4.3, Table 1, Sl.no (viii)	i) Water (or other liquid) bath (ii) Saponification flask (250 ml) (iii) 2 L Beaker (iv) Wide mouth Bottle (v) Titre test-tube (vi) Glass stirrer (vii) Thermometer (0-110 Deg C) (viii) Corks (ix) Titre Thermometer as per Cl. 13.1.8 (x) Glycerol-Caustic Potash (xi) Dilute sulphuric acid

		(xii) Methyl orange indicator (xii) Acetone
10.	Color Clause 4.3, Table 1, Sl.no (ix)	(i) Lovibond Tintometer or colorimeter (ii) Filter Paper (iii) 5 ¼ inch / ¼ inch / 1 /2-inch Glass Cell.
11.	Flash point Clause 4.3, Table 1, Sl.no (x)	i) Cleaning solvent ii) Flash point apparatus as described in Annex B of IS 1448 [P : 21] : 2019 iii) Temperature measuring devices iv) Barometer, absolute pressure reading, accuracy of $\pm 0,5$ kPa, and with a resolution of 0,1 kPa v) Heating bath or oven explosion-protected type.
12.	Fatty Acid Clause 4.4, Table 2	Method A i) Gas liquid chromatograph, ii) Syringe — 10 μ l graduated in 1/10th of a microlitre, iii) Recorder, Integrator or calculator, iv) 50 and 100 ml boiling flasks, v) Reflux condenser, Graduated pipette – 10 ml, vi) Test tubes with ground stoppers., vii) 250 ml separating funnels, viii) Carrier gas - Inert gas (nitrogen, helium, argon) thoroughly dried and containing less than 10 mg/kg of oxygen, ix) Auxillary gas hydrogen 99.9 percent minimum purity, x) Free from organic impurities, air or oxygen, xi) Reference standards — A mixture of methyl esters or methyl esters of oils of known purity preferably similar to the fatty matter being analysed, xii) Methanolic Sodium hydroxide solution — Approx 0.5 N, xiii) sodium carbonate, xiv) Methanolic solution of boron trifluoride — 12-15 % m/m, methanolic solution of boron trifluoride, xv) Heptane-chromatographic quality, xvi) Redistilled petroleum ether 40 – 60 °C, xvii) Anhydrous sodium sulphate xviii) Saturated solution of sodium chloride, xix) Methyl red Method B (Alternate Method for Preparing Methyl Esters) i. Methanol containing not more than 0.5 percent water, ii. Methanolic potassium hydroxide solution, iii. Heptane chromatographic quality, iv. Anhydrous sodium sulphate, v. Nitrogen, containing not more than 0.5 mg/kg of oxygen.

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

ANNEX-C
TO THE PRODUCT MANUAL FOR
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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 suitable form of packing as agreed between the purchaser and the supplier, in line with the provisions of Clause 5.1 of IS 12069: 2023.

3.2 Marking - The containers shall bear legibly and indelibly the information as mentioned under clause 5.2 of IS 12069: 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'.

4. CONTROL UNIT – For the purpose of this scheme all the containers of the same Grade of Coconut Fatty Acids manufactured 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: Subcontracting permitted	No of Samples	Frequency	Remarks
		Test Method cl. ref.	Test Method IS				
4.1,4.2	Description	4.1,4.2	IS 12069: 2023	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		
Clause 4.3, Table 1, Sl.no (i)	Moisture	6	IS 548 (Part 1/Sec 2)	R	One	Each Control Unit	
Clause 4.3, Table 1, Sl.no (ii)	Saponification value	16	IS 548 (Part 1/Sec 2)	R	One	Each Control Unit	
Clause 4.3, Table 1, Sl.no (iii)	Acid value	8	IS 548 (Part 1/Sec 2)	R	One	Each Control Unit	
Clause 4.3, Table 1, Sl.no (iv)	Iodine value	15	IS 548 (Part 1/Sec 2)	R	One	Each Control Unit	
Clause 4.3, Table 1, Sl.no (v)	Mineral acidity	ANNEX A A-1	IS 12069: 2023	R	One	Each Control Unit	
Clause 4.3, Table 1, Sl.no (vi)	Ash	ANNEX A A-2	IS 12069: 2023	R	One	Each Control Unit	
Clause 4.3, Table 1, Sl.no (vii)	Unsaponifiable matter	9	IS 548 (Part 1/Sec 2)	R	One	Each Control Unit	
Clause 4.3, Table 1, Sl.no (viii)	Titre	13	IS 548 (Part 1/Sec 2)	R	One	Each Control Unit	
Clause 4.3, Table 1, Sl.no (ix)	Color	14.1	IS 548 (Part 1/Sec 2)	R	One	Each Control Unit	

Clause 4.3, Table 1, Sl.no (x)	Flash point	Procedure C	IS 1448 (Part 21)	R	One	Each Control Unit	
Clause 4.4, Table 2	Fatty Acid Composition of Coconut Fatty Acids	5	IS 548 (Part 3/Sec 1)	R	One	Each Control Unit	

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. Subcontracting 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.