

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

**आई एस 548 तेल और वसा के लिए नमूनाकरण और परीक्षण की विधि
भाग 3 उन्नत उपकरणिय विधियां
अनुभाग 12 जीसी/एमएस द्वारा फैटी-एसिड-बाउंड क्लोरोप्रोपेनडायोल (एमसीपीडी) और
ग्लाइसीडोल का निर्धारण – तेजी से क्षारीय ट्रांसएस्टरिफिकेशन की विधि एवं
2-एमसीपीडी, 3-एमसीपीडी एवं ग्लाइसीडॉल का मापन
(आई एस ओ 18363-4 : 2021 का अंगीकरण)**

Draft Indian Standard

**IS 548 METHOD OF SAMPLING AND TEST FOR OILS AND FATS –
PART 3 ADVANCED INSTRUMENTAL METHODS
SECTION 12 DETERMINATION OF FATTY-ACID-BOUND
CHLOROPROPANEDIOLS (MCPDS) AND GLYCIDOL BY GC/MS – METHOD
USING FAST ALKALINE TRANSESTERIFICATION AND MEASUREMENT FOR
2-MCPD, 3-MCPD AND GLYCIDOL BY GC-MS/MS
(Adoption of ISO 18363-4 : 2021)
ICS 67.200.10**

Oils and Oilseeds Sectional Committee, FAD 13

Last Date of Comments
28 April 2024

NATIONAL FOREWORD

(Adoption clause would be added later)

IS 548 was first published in 1954 covering the methods of sampling, physical, chemical and qualitative tests for oils and fats. Subsequently, the standard was revised in 1964 and split into 3 parts namely, Part 1 Methods of sampling, physical and chemical tests; Part 2 Methods for purity tests; and Part 3 Methods of analysis of vegetable oils and fats by gas liquid chromatography (GLC) technique (first published in 1976 and covered method for determination of fatty acid profile).

To include various advanced analytical methods for the additional quality parameters, IS 548 Part 3 was renamed as 'Advanced instrumental methods' in 2020 and split into separate sections. This Section of IS 548 Part 3 i.e. Section 12 is an identical adoption of ISO 18363-4 : 2021 'Animal and vegetable fats and oils — Determination of fatty-acid-bound chloropropanediols (MCPDs) and glycidol by GC/MS — Part 4: Method using fast alkaline transesterification and measurement for 2-MCPD, 3-MCPD and glycidol' issued by the International Organization for Standardization.

The other sections of IS 548 Part 3 are as under:

Section 1	Determination of fatty acid profile
Section 2	Determination of oxidative stability (accelerated oxidation test)
Section 3	Determination of the triacylglycerol composition of fats and oils - Determination by capillary gas chromatography
Section 4	Determination of content of polar compounds
Section 5	Determination of wax content by gas chromatography
Section 6	Determination of phosphorus content – Colorimetric method
Section 7	Determination of phosphorus content – Method using graphite furnace atomic absorption spectrometry
Section 8	Determination of phosphorus content – Method using inductively coupled plasma (ICP) optical emission spectroscopy
Section 9	Determination of fatty-acid-bound chloropropanediols (MCPDs) and glycidol by GC/MS – Method using fast alkaline transesterification and measurement for 3-MCPD and differential measurement for glycidol
Section 10	Determination of fatty-acid-bound chloropropanediols (MCPDs) and glycidol by GC/MS – Method using slow alkaline transesterification and measurement for 2-MCPD, 3-MCPD and glycidol
Section 11	Determination of fatty-acid-bound chloropropanediols (MCPDs) and glycidol by GC/MS – Method using acid transesterification and measurement for 2-MCPD, 3-MCPD and glycidol

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

The Technical Committee has reviewed the provisions of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

<i>International Standard</i>	<i>Title</i>
ISO 3696	Water for analytical laboratory use — Specification and test methods

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'.

‘FOR COMPLETE TEXT OF THE DOCUMENT, KINDLY REFER ISO 18363-4 : 2021’

NOTE: The technical content of the document has not been enclosed as these are identical with ISO 18363-4 : 2021. For obtaining the hard copy of the complete ISO standard, please contact:

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