INTERNATIONAL STANDARD

ISO 5508

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Animal and vegetable fats and oils — Analysis by gas chromatography of methyl esters of fatty acids

Corps gras d'origines animale et végétale — Analyse par chromatographie en phase gazeuse des esters méthyliques d'acides gras



Reference number ISO 5508:1990(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 5508 was prepared by Technical Committee ISO/TC 34, Agricultural food products.

This second edition cancels and replaces the first edition (ISO 5508:1978), of which it constitutes a technical revision with the constitutes a technical re

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Animal and vegetable fats and oils — Analysis by gas chromatography of methyl esters of fatty acids

1 Scope

This International Standard gives beneral guidance for the application of gas chromotography, using packed or capillary columns, to determine the qualitative and quantitative composition of a mixture of fatty acid methyl esters obtained in accordance with the method specified in ISO 5509.

The method is not applicable to polymerized fatty acids.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5509:1978, Animal and vegetable fats and oils – Preparation of methyl esters of fatty acids.

3 Reagents

3.1 Carrier gas

Inert gas (nitrogen, helium, argon, hydrogen, etc.), thorougly dried and with an oxygen content of less than 10 mg/kg.

NOTE 1 Hydrogen, which is used as a carrier gas only with capillary columns, can double the speed of analysis but is hazardous. Safety devices are available.

3.2 Auxiliary gases

3.2.1 Hydrogen (purity \geq 99,9 %), free from organic impurities.

3.2.2 Air or oxygen, free from organic impurities.

3.3 Reference standard

A mixture of methyl esters of pure fatty acids, or the methyl esters of a fat of known composition, preferably similar to that of the fatty matter to be analysed.

Care shall be taken to prevent the oxidation of polyunsaturated fatty acids.

4 Apparatus

The instructions given relate to the usual equipment used for gas chromatography, employing packed and/or capillary columns and a flame-ionization detocor. Any apparatus giving the efficiency and resolution specified in 5.1.2 is suitable.

4.1 Gas chromatograph.

The gas chomatograph shall comprise the following elements.

4.1.1 Injection system.

Use an injection system either

- a) with packed columns, having the least deadspace possible (in this case the injection system shall be capable of being heated to a temperature 20 °C to 50 °C higher than that of the column), or
- b) with capillary columns, in which case the injection system shall be specially designed for use with such columns. It may be of the split type or it may be of the splitless on column injector type.

NOTE 2 In the absence of fatty acids with less than 16 carbon atoms, a moving needle injector may be used.