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Animal and vegetable fats and oils — Determination of content of polar compounds

*Corps gras d'origines animale et végétale — Détermination de la teneur en
composés polaires*



Reference number
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Foreword

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The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 8420 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 11, *Animal and vegetable fats and oils*.

This second edition cancels and replaces the first edition (ISO 8420:1990), which has been technically revised.

Annexes A and B of this International Standard are for information only.

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Animal and vegetable fats and oils — Determination of content of polar compounds

1 Scope

This International Standard describes a method for the determination of the content of polar compounds in animal and vegetable fats and oils, hereinafter referred to as fats.

Polar compounds are formed during the heating of fats and thus the method serves to assess the deterioration of frying fats with use.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 661:1989, *Animal and vegetable fats and oils — Preparation of test sample*

3 Term and definition

For the purposes of this International Standard, the following term and definition applies.

3.1

polar compounds

constituents of fats which are determined by column chromatography under the conditions specified in this International Standard

NOTE 1 The polar compounds content is expressed as a mass fraction in percent.

NOTE 2 Polar compounds include polar substances which occur in unused fats, such as monoglycerides, diglycerides and free fatty acids, as well as polar transformation products formed during heating as occurs during the frying of food. Non-polar compounds are mostly unaltered triglycerides.

4 Principle

A test portion is separated by column chromatography into non-polar and polar compounds. The non-polar compounds are eluted then weighed. The polar compounds are determined by difference.

5 Reagents and materials

Use only reagents of recognized analytical grade, and distilled or demineralized water or water of equivalent purity.