
**Animal and vegetable fats and oils —
Determination of unsaponifiable matter —
Method using diethyl ether extraction**

*Corps gras d'origines animale et végétale — Détermination de la teneur en
matières insaponifiables — Méthode par extraction à l'oxyde diéthylique*



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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

International Standard ISO 3596 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Subcommittee SC 11, *Animal and vegetable fats and oils*.

This first edition of ISO 3596 cancels and replaces ISO 3596-1:1988 and its Amendment 1:1997, of which it constitutes a minor revision.

Annex A of this International Standard is for information only.

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Animal and vegetable fats and oils — Determination of unsaponifiable matter — Method using diethyl ether extraction

1 Scope

This International Standard specifies a method using diethyl ether extraction for the determination of the unsaponifiable matter content of animal and vegetable fats and oils.

This method is not applicable to waxes and, moreover, gives approximate results with certain fats of high unsaponifiable matter content, for example with fats derived from marine animals.

A method given in ISO 18609 may be used when climatic conditions, or regulations, do not permit the use of diethyl ether.

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, *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

unsaponifiable matter

all the substances present in the product which, after saponification of the latter by potassium hydroxide and extraction by a specified solvent, are not volatile under the specified operating conditions

4 Principle

The fat or oil is saponified by boiling under reflux with an ethanolic potassium hydroxide solution. The unsaponifiable matter is extracted from the soap solution by diethyl ether. The solvent is evaporated and the residue is weighed after drying.

5 Reagents

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

5.1 **Diethyl ether**, freshly distilled, free from peroxides and residue.