INTERNATIONAL STANDARD

ISO 3596-1

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AMENDMENT 1
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Animal and vegetable fats and oils — Determination of unsaponifiable matter —

Part 1:
Method using diethyl ether extraction

AMENDMENT 1: Results of interlaboratory tests

Corps gras d'origines animale et végétale — Détermination de la teneur en matières insaponifiables —

Partie 1:
Méthode par extraction à l'oxyde diéthylique (méthode de référence)

AMENDEMENT 1: Résultats des essais interlaboratoires

Reference number
ISO 3596-1:1988/Amd.1:1997(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.

Amendment 1 to ISO 3596-1:1988 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Subcommittee SC 11, *Animal and vegetable fats and oils.*

Annex B of this part of ISO 3596 is for information only.

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Animal and vegetable fats and oils — Determination of unsaponifiable matter —

Part 1:
Method using diethyl ether extraction

AMENDMENT 1: Results of interlaboratory tests

Add the following annex after annex A.

Annex B
(informative)

Results of interlaboratory tests

B.1 An international collaborative test involving 51 laboratories in 16 countries was carried out on

Sample A: refined, bleached, deodorized soyabean oil, and
Sample B: dried, crude water-degummed soyabean oil,

using the diethyl ether method.

The test was organized by the Federation of Oils, Seeds and Fats Associations Ltd. (FOSFA International) in June1995 and the results obtained were subjected to statistical analysis in accordance with ISO 5725[1)] to give the precision data shown in table B.1.

Table B.1

	Soyabean oil	
	A	**B**
No. of participating laboratories after eliminating outliers	49	50
Mean value, % (*m/m*)	0,58	0,69
Repeatability standard deviation, s_r, % Repeatability limit r (2,8s_r), % Coefficient of variation of repeatability, %	0,025 0,07 4,3	0,027 0,08 3,9
Reproducibility standard deviation, s_R, % Reproducibility limit R (2,8s_R), % Coefficient of variation of reproducibility, %	0,22 0,62 37,9	0,24 0,67 34,7

1) ISO 5725:1986, *Precision of test methods — Determination of repeatability and reproducibility for a standard test method by interlaboratory tests* (now withdrawn) was used to obtain the precision data.

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B.2 Another international collaborative test involving 43 laboratories in 17 countries took place in July 1989 on crude Japanese fish oil.

The test was organized by the Federation of Oils, Seeds and Fats Associations Ltd. (FOSFA International) and the results obtained were subjected to statistical analysis in accordance with ISO 5725[1)] to give the precision data shown in table B.2.

Table B.2

	Fish oil
No. of participating laboratories after eliminating outliers	37
Mean value, % (*m/m*)	0,81
Repeatability standard deviation, s_r, % Repeatability limit r ($2{,}8s_r$), % Coefficient of variation of repeatability, %	0,02 0,06 2,46
Reproducibility standard deviation, s_R, % Reproducibility limit R ($2{,}8s_R$), % Coefficient of variation of reproducibility, %	0,29 0,81 35,8

B.3 A third international collaborative test involving 10 laboratories was organized by IUPAC between 1976 and 1997. The results obtained were subjected to statistical analysis in accordance with ISO 5725[1)] to give the precision data shown in table B.3.

Table B.3

	Refined soyabean oil	**Refined tallow**	**Crude rapeseed oil**
No. of participating laboratories after eliminating outliers	10	10	10
Mean value, % (*m/m*)	0,630	0,253	1,432
Repeatability standard deviation, s_r, % Repeatability limit r ($2{,}8s_r$), % Coefficient of variation of repeatability, %	0,032 0,089 5,0	0,024 0,067 9,3	0,068 0,1924,7
Reproducibility standard deviation, s_R, % Reproducibility limit R ($2{,}8s_R$), % Coefficient of variation of reproducibility, %	0,140 0,397 22,3	0,154 0,435 60,9	0,137 0,389 9,6

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