
**Animal and vegetable fats and oils —
Determination of cadmium content by
direct graphite furnace atomic absorption
spectrometry**

*Corps gras d'origines animale et végétale — Détermination de la teneur en
cadmium par spectrométrie d'absorption atomique à four graphite*



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Foreword

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International Standard ISO 15774 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Subcommittee SC 11, *Animal and vegetable fats and oils*.

Annex A of this International Standard is for information only.

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Animal and vegetable fats and oils — Determination of cadmium content by direct graphite furnace atomic absorption spectrometry

1 Scope

This International Standard describes a method for the determination of trace amounts (micrograms per kilogram) of cadmium in all types of crude or refined edible oils and fats.

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, this publication 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 3696, *Water for analytical laboratory use — Specification and test methods*.

3 Principle

The oil or fat is incinerated and atomized in a suitable graphite tube furnace with a platform connected to an atomic absorption spectrometer, previously calibrated using standard solutions of an organo-compound of cadmium. The metal content is determined from the observed absorption at a wavelength of 228,8 nm. Palladium is added as a matrix modifier in order to prevent loss of cadmium during the thermal pretreatment.

4 Reagents

Use only reagents of recognized analytical grade, unless otherwise specified.

4.1 Water, of grade 1 according to ISO 3696.

4.2 Cyclohexane.

4.3 Hydrochloric acid.

4.4 Palladium chloride.

4.5 Matrix modifier, 0,1 % (mass/volume) palladium solution.

Dissolve 0,167 g of palladium chloride (4.4) in 50 ml water (4.1) in a 100 ml volumetric flask (5.4), adding 1 ml hydrochloric acid (4.3) and making up to volume with water.

4.6 Vegetable oil, refined.