
**Animal and vegetable fats and oils —
Determination of polyethylene-type
polymers**

*Corps gras d'origines animale et végétale — Dosage des polymères de type
polyéthylène*



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Foreword

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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 6656 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 6656:1984), which has been editorially revised to include warning notices about the use of certain solvents.

Annex A of this International Standard is for information only.

Introduction

The presence of polyethene-type polymers, which originate from packaging materials, can cause serious difficulties in the processing of fats, as they can lead to deposits and blockages in pipes, valves, etc. In the manufacture of soap, they may lead to the appearance of fibre marbling and undesirable specks.

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WARNING — The method described in this International Standard requires the use of chloroform and tetrachloroethylene. These are toxic and ozone-depleting substances. Avoid inhalation of and exposure to these solvents. Work in a fume cupboard when handling these solvents and solutions thereof.

1 Scope

This International Standard specifies the reference method for the determination of polyethylene-type polymers in animal and vegetable fats and oils.

It has been established that below 50 mg of polymers per kilogram the precision of the method is insufficient (see the results for tallow 1 in Table A.1).

This method is used for animal fats and oils in particular.

2 Term and definition

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

2.1

polyethylene-type polymers

impurities which are soluble in boiling tetrachloroethylene

EXAMPLE Polyethylenes which originate from packaging materials.

3 Principle

After acid treatment to decompose any soaps present, a test portion is dissolved in chloroform (which leaves polyethylene-type polymers in suspension) and filtered through a sintered filter crucible containing a mat of filter aid. The crucible and its contents are washed, dried and weighed. Polyethylene-type polymers are extracted from the insoluble matter by boiling tetrachloroethylene. The crucible with its contents are dried and weighed again.

4 Reagents

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

4.1 Methanol, containing not more than 0,5 % (by mass) of water.

4.2 Acetone.

4.3 Chloroform.

4.4 Tetrachloroethylene.

4.5 Hydrochloric acid, ethanolic solution.