BS 684 : Section 2.13 : 1990
ISO 3961 : 1989

[Iodine value]

UDC 665.1.014 : 543.852.44

British Standard Methods of analysis of

Fats and fatty oils

Part 2. Other methods

Section 2.13 Determination of iodine value

Méthodes d'analyse des corps gras
Partie 2. Autres méthodes
Section 2.42 Determination de l'indice d'iode

Verfahren zur Analyse von Fetten und Fettöler
Teil 2. Andere Verfahren
Abschnitt 2.42 Bestimmung des Jodwertes

IMPORTANT NOTE. It is essential that BS 684 : Part 0, which is published separately, be read in conjunction with this Section.

National foreword

This revision of Section 2.13 of BS 684 has been prepared under the direction of the Food and Agriculture Standards Policy Committee. It is identical with ISO 3961 : 1989 'Animal and vegetable fats and oils — Determination of iodine value' published by the International Organization for Standardization (ISO), and in the preparation of which the UK played a full part. This revision supersedes BS 684 : Section 2.13 : 1981 which is withdrawn and from which it differs principally in that commercially available Wijs reagent not containing carbon tetrachloride is used.

Cross-references

International standard	Corresponding British Standard
ISO 661 : 1989	BS 684 Methods of analysis of fats and fatty oils Part 0 : 1989 General introduction (Appendix B identical)
ISO 3696 : 1987	BS 3978 : 1987 Specification for water for laboratory use (Identical)
ISO 5555 : 1983	BS 627 : 1982 Methods for sampling animal and vegetable fats and oils (Technically equivalent)

Compliance with a British Standard does not of itself confer immunity from legal obligations.

BSi British Standards

Animal and vegetable fats and oils — Determination of iodine value

1 Scope

This International Standard specifies a method for the determination of the iodine value of animal and vegetable fats and oils.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

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

ISO 3696 : 1987, *Water for analytical laboratory use — Specification and test methods.*

ISO 5555 : 1983, *Animal and vegetable fats and oils — Sampling.*

3 Definition

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

iodine value : The mass of iodine absorbed by the sample under the operating conditions specified in this International Standard.

The iodine value is expressed as grams of iodine per 100 g of sample.

4 Principle

Dissolution of a test portion in solvent and addition of Wijs reagent. After a specified time, addition of potassium iodide solution and water, and titration of the liberated iodine with sodium thiosulfate solution.

5 Reagents

All reagents shall be of recognized analytical grade.

5.1 Water, complying with the requirements of ISO 3696, grade 3.

5.2 Potassium iodide, 100 g/l solution, not containing free iodine or iodate.

5.3 Starch, solution.

Mix 5 g of soluble starch in 30 ml of water, add this mixture to 1 000 ml of boiling water, boil for 3 min and allow to cool.

5.4 Sodium thiosulfate, standard volumetric solution $c(Na_2S_2O_3 \cdot 5H_2O) = 0{,}1$ mol/l, standardized not more than 7 days before use.

5.5 Solvent, carbon tetrachloride.

WARNING — Carbon tetrachloride is toxic. A less harmful solvent is being sought.

5.6 Wijs reagent, containing iodine monochloride in acetic acid. Commercially available Wijs reagent shall be used.

6 Apparatus

Usual laboratory apparatus and, in particular, the following.

6.1 Glass weighing scoops, suitable for the test portion and for inserting into the flasks (6.2).

6.2 Conical flasks, of 500 ml capacity, fitted with ground glass stoppers and completely dry.

7 Sampling

Sampling shall be carried out in accordance with ISO 5555.