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Meat and fish products — Determination of total volatile basic nitrogen — Semi-micro nitrogen determination method

Produits à base de viande et de poisson — Détermination de l'azote basique volatil total — Méthode de détermination par semi- microdosage de l'azote

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Foreword

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This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 6, *Meat, poultry, fish, eggs and their products*.

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Meat and fish products — Determination of total volatile basic nitrogen — Semi-micro nitrogen determination method

1 Scope

This document specifies a semi-micro nitrogen determination method for total volatile basic nitrogen in meat, including livestock and poultry, and fish products.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
total volatile basic nitrogen
all of the volatile nitrogen-containing compounds including ammonia, amines and other alkaline substances

Note 1 to entry: When an animal-derived food is in the process of spoilage, the enzymes and bacteria cause the proteins to decompose and produce volatile nitrogen-containing compounds.

Note 2 to entry: Mass fraction of total volatile basic nitrogen in meat and fish products is expressed in mg/100 g.

Note 3 to entry: The content of total volatile basic nitrogen is determined according to the procedure specified in this document.

4 Principle

The test sample is deprotonated using a trichloroacetic acid solution. After that, the filtrate is transferred into a steam distillation apparatus. During steam distillation, the total volatile basic nitrogen in the filtrate is produced easily through the process of alkalinization. The resulting total volatile nitrogenous base components are then absorbed by an acid receiver. Finally, the concentration of total volatile basic nitrogen is determined by performing an acid-base titration of the absorbed bases.

5 Reagents

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

5.1 Water, conforming to at least grade 3 in accordance with ISO 3696. The water shall be free of organic compounds.

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