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Meat and meat products — Determination of chloride content —

Part 1: Volhard method

Sample Document

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*Viande et produits à base de viande — Détermination de la teneur
en chlorures —*

Partie 1: Méthode de Volhard



Reference number
ISO 1841-1:1996(E)

Foreword

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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.

International Standard ISO 1841-1 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Subcommittee SC 6, *Meat and meat products*.

This first edition of ISO 1841-1 cancels and replaces ISO 1841:1981 which has been technically revised.

ISO 1841 consists of the following parts, under the general title *Meat and meat products — Determination of chloride content*:

- *Part 1: Volhard method*
- *Part 2: Potentiometric method*

Annex A of this part of ISO 1841 is for information only.

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Meat and meat products — Determination of chloride content —

Part 1:

Volhard method

1 Scope

This part of ISO 1841 specifies a method for the determination of the chloride content of meat and meat products, including poultry, with sodium chloride contents equal to or greater than 1,0 % (m/m).

2 Definition

For the purposes of this part of ISO 1841, the following definition applies.

2.1 chloride content of meat and meat products:

Total chloride content determined by the method specified in this part of ISO 1841. It is expressed as sodium chloride as a percentage by mass.

3 Principle

Extraction of a test portion with hot water and precipitation of the proteins. After filtration and acidification, addition of an excess of silver nitrate solution to the extract, and titration of this excess with potassium thiocyanate solution.

4 Reagents

Use only reagents of recognized analytical grade unless otherwise specified.

4.1 Water, distilled and halogen-free.

Halogen-free test: Add 1 ml of silver nitrate [$c(\text{AgNO}_3) \approx 0,1 \text{ mol/l}$] and 5 ml of nitric acid [$c(\text{HNO}_3) \approx 4 \text{ mol/l}$]

to 100 ml of water. No more than a slight turbidity shall be produced.

4.2 Nitrobenzene or nonan-1-ol.

4.3 Nitric acid, $c(\text{HNO}_3) \approx 4 \text{ mol/l}$.

Mix 1 volume of concentrated nitric acid ($1,39 \text{ g/ml} \leq \rho_{20} \leq 1,42 \text{ g/ml}$) with 3 volumes of water.

4.4 Solutions for precipitation of proteins

4.4.1 Reagent A

Dissolve in water 106 g of potassium hexacyanoferrate(II) trihydrate [$\text{K}_4\text{Fe}(\text{CN})_6 \cdot 3\text{H}_2\text{O}$]. Transfer quantitatively to a 1 000 ml one-mark volumetric flask (5.2) and dilute to the mark with water.

4.4.2 Reagent B

Dissolve in water 220 g of zinc acetate dihydrate [$\text{Zn}(\text{CH}_3\text{COO})_2 \cdot 2\text{H}_2\text{O}$] and add 30 ml of glacial acetic acid. Transfer quantitatively to a 1 000 ml one-mark volumetric flask (5.2) and dilute to the mark with water.

4.5 Silver nitrate, standard volumetric solution, $c(\text{AgNO}_3) = 0,1 \text{ mol/l}$.

Dissolve in water 16,989 g of silver nitrate, previously dried for 2 h at $150^\circ\text{C} \pm 2^\circ\text{C}$ and allowed to cool in a desiccator. Transfer quantitatively to a 1 000 ml one-mark volumetric flask (5.2) and dilute to the mark with water.

Store this solution in a dark glass container out of direct sunlight

4.6 Potassium thiocyanate, standard volumetric solution, $c(\text{KSCN}) = 0,1 \text{ mol/l}$.