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R 1841

MEAT AND MEAT PRODUCTS

DETERMINATION OF CHLORIDE CONTENT

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BRIEF HISTORY

The ISO Recommendation R 1841, *Meat and meat products – Determination of chloride content*, was drawn up by Technical Committee ISO/TC 34, *Agricultural food products*, the Secretariat of which is held by the Magyar Szabványügyi Hivatal (MSZH).

Work on this question led to the adoption of Draft ISO Recommendation No. 1841, which was circulated to all the ISO Member Bodies for enquiry in April 1969. It was approved, subject to a few modification of an editorial nature, by the following Member Bodies :

Australia	India	Romania
Brazil	Iran	South Africa, Rep. of
Chile	Israel	Sweden
Czechoslovakia	Netherlands	Turkey
France	New Zealand	U.A.R.
Germany	Peru	United Kingdom
Greece	Poland	U.S.S.R.
Hungary	Portugal	

No Member Body opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

ISO Recommendation | R 1841 | October 1970

MEAT AND MEAT PRODUCTS

DETERMINATION OF CHLORIDE CONTENT

1. SCOPE

This ISO Recommendation describes a reference method for the determination of the chloride content of meat and meat products.

2. DEFINITION

By the *chloride content* of meat and meat products is meant the total chloride content determined according to the procedure described.

The chloride content is expressed as a percentage by mass of sodium chloride.

3. PRINCIPLE

Extraction of the 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 with potassium thiocyanate solution.

4. REAGENTS

All reagents should be of analytical quality. Water should be distilled water or water of at least equivalent purity.

4.1 *Nitrobenzene.*

4.2 *Nitric acid*, about 4 N solution.

Mix 1 volume of concentrated nitric acid (ρ_{20} = 1.39 to 1.42 g/ml) with 3 volumes of water.

4.3 Solution used for precipitation of proteins.

4.3.1 *Reagent I.*

Dissolve 106 g of potassium cyanoferrate (II) [$K_4Fe(CN)_6.3H_2O$] in water and dilute to 1000 ml.

4.3.2 *Reagent II.*

Dissolve 220 g of zinc acetate [$Zn(CH_3COO)_2.2H_2O$] and 30 ml of glacial acetic acid in water and dilute to 1000 ml.

4.4 *Silver nitrate*, 0.1 N standard volumetric solution.

Dry silver nitrate ($AgNO_3$) for 2 hours at 150 °C and allow to cool in a desiccator. Dissolve 16.989 g of the dried salt in water and dilute to 1000 ml.

4.5 *Potassium thiocyanate,* 0.1 N standard volumetric solution.

Dissolve about 9.7 g of potassium thiocyanate (KSCN) in water and dilute to 1000 ml. Standardize the solution to the nearest 0.0001 N against silver nitrate, using the solution specified in clause 4.4 and the indicator solution specified in clause 4.7.

4.6 *Sodium hydroxide,* 1 N solution.

4.7 *Ammonium iron (III) sulphate* $[NH_4Fe(SO_4)_2.12H_2O]$, saturated solution in water.

4.8 *Activated charcoal.*

5. APPARATUS

Usual laboratory apparatus not otherwise specified, and the following items :

5.1 *Mechanical meat mincer,* laboratory size, fitted with a plate having holes of diameter not exceeding 4 mm.

5.2 *One-mark volumetric flask,* 200 ml, class B, according to ISO Recommendation R 1042, *One-mark volumetric flasks.*

5.3 *Conical flasks,* about 250 ml.

5.4 *Burette,* 25 or 50 ml, class A, according to ISO Recommendation R 385, *Burettes.*

5.5 Two *one-mark pipettes,* 20 ml, class A, according to ISO Recommendation R 648, *One-mark pipettes.*

5.6 *pH meter.*

6. SAMPLE

6.1 Proceed from a representative sample of at least 200 g. See ISO Recommendation R ...*, *Meat and meat products – Sampling.*

6.2 Store the sample in such a way that deterioration and change in composition are prevented.

7. PROCEDURE

7.1 Preparation of the sample

Render the sample uniform by passing it at least twice through the meat mincer (5.1) and mixing. Keep it in a completely filled, air-tight container in such a way that deterioration and change in composition are prevented. Analyse the sample as soon as possible, but always within 24 hours.

7.2 Test portion

Weigh, to the nearest 0.001 g, about 10 g of the prepared sample and transfer it quantitatively to a conical flask (5.3).

7.3 Deproteination

Add successively 0.5 g of activated charcoal (4.8) and 100 ml of hot water to the test portion in the flask. Heat the flask with contents for 15 minutes in a boiling water bath. Shake the contents of the flask repeatedly.

* In preparation.