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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 9695.13-2009

Replacing GB/T 9695.13-1988

**Meat and meat products -- Method for Determination of calcium
content**

(English Translation)

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Foreword

GB/T 9695 "Meat and meat products" consists of the following components.

- Part 1. Meat and meat products - Determination of free fat content;
- Part 2. Determination of fatty meat and meat products;
- Part 3. Meat and meat products - Determination of iron content;
- Part 4. Determination of total phosphorus content of meat and meat products;
- Part 5. Meat and meat pH measurement;
- Part 6. Determination of meat Carmine colorant;
- Part 7. Meat and meat products - Determination of total fat content;
- Part 8. Meat and meat products - Determination of chloride content;
- Part 9. Determination of meat and meat products polyphosphate;
- Part 10. Meat and meat products BHC and DDT residues determination;
- Part 11. Meat and meat products - Determination of nitrogen;
- Part 13. Meat and meat products - Determination of calcium content;
- Part 14. Determination of starch content of meat products;
- Part 15. Determination of moisture content in meat and meat products;
- Part 17. Determination of meat and meat products gluconate -delta- lactone content;
- Part 18. Meat and meat products - Determination of total ash;
- Part 19. Meat and meat sampling methods;

- Part 20. Meat and meat products - Determination of zinc;
- Part 21. Meat and meat products - Determination of magnesium content;
- Part 22. Meat and meat products - Determination of copper content;
- Part 23. Meat and meat products - Determination of hydroxyproline content;
- Part 24. Meat and meat products - Determination of cholesterol;
- Part 25. Meat and meat products - Determination of vitamin PP;
- Part 26. Meat and meat products - Determination of vitamin A;
- Part 27. Meat and meat products - Determination of vitamin B1;
- Part 28. Meat and meat products - Determination of vitamin B2;
- Part 29. Determination of vitamin C content of meat products;
- Part 30. Meat and meat products - Determination of vitamin E;
- Part 31. Determination of the total sugar content of meat products.

This section GB/T Part of 139,695.

Of this section refer to the ISO 6869:2000 "Atomic animal feed, calcium, copper, iron, magnesium, manganese, potassium, sodium and zinc content Absorption Spectrometry" and ISO 12081:1998 "Determination of milk calcium titration." this Part replaces GB/T 9695.13-1988 "Meat and meat products - Determination of calcium content." this portion of the GB/T 9695.13-1988 compared to the main changes are as follows.

- Atomic absorption method as the first method, the second titration method;
- In the pretreatment step atomic absorption spectrometry, increasing the wet digestion;
- The matrix modifier by the strontium nitrate instead of lanthanum chloride;
- According to GB/T 1.1-2000 "Standardization Guide Part 1. Standard structure and writing rules" and GB/T 20001.4-2001 "Rules for drafting standards - Part 4. Chemical analysis methods," the original standards were restructuring and editorial changes.

This part of the National Standardization Technical Committee of poultry meat products and centralized.

This section drafted by. China Meat Research Center, China Chamber of Commerce Business Standard Centre, Wuhan Disease Control and Prevention System Center, Jiangyin City Product Quality Supervision.

1 Scope

GB/T 9695 provisions of this part of the meat and meat products Determination of calcium content.

Atomic absorption method detection limits. 0.5mg/kg; titration method detection limits. 5.0mg/kg.

2 Normative references

The following documents contain provisions by GB/T 9695 reference in this part of the provisions of this section. For dated references, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encourage the agreement on this section are parties research using the latest version of the referenced files. For undated reference documents, the latest versions apply to this section.

Preparation of GB/T 601 chemical reagent standard titration solution GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD)
GB/T 9695.19 Meat and meat products - Sampling Methods

3.1 Principle

The sample was made after ashing or digestion dilute acid solution, a solution of lanthanum to eliminate the anion effect, after atomization, measured at 422.7nm at its Absorption value proportional to the concentration of calcium, compared with standard series determination of calcium content.

3.2 Reagents

Unless otherwise noted, reagents were analytical grade, the water should be consistent with GB/T 6682 requirements.

3.2.1

Nitric acid. pure class distinctions.

3.2.2

perchloric acid. pure class distinctions.

3.2.3

hydrochloride. pure class distinctions.

3.2.4

nitric acid solution. nitric acid = 1 + 1 + water.

3.2.5

lanthanum chloride solution (20g/L). Weigh 23.45g of lanthanum chloride in 250mL beaker, moistened with a small amount of water was added 75mL salt Acid (3.2.3), the solution prepared was transferred to 1000mL volumetric flask, add water to volume, and mix.

3.2.6

mixed acid digestion. nitric acid + perchloric acid = 7 + 1.

3.2.7

hydrochloric acid solution. HCl + water = 1 + 1.

3.2.8

Calcium standard solution (Ba = 100µg/mL). national certified reference materials, or prepared as follows. Weigh at 105 °C ~ 110 °C 0.2497g reference 2h calcium sulfate in a beaker, adding a small amount of hydrochloric acid solution (3.2.7) dissolved, transferred to a 1000mL container Volumetric flask, dilute to the mark and mix.

3.2.9

Calcium standard solution (Ba = 10µg/mL). absorb calcium standard solution (3.2.8) 5.00mL, lanthanum oxide solution (3.2.5) and dilute to 50mL.

3.2.10

nitric acid solution. nitric acid = 1 + 9 + water.

3.3 Instruments and equipment

All glassware are nitric acid solution (3.2.10) above soaking 2h, rinsed with deionized water after drying or drying before use.

The following routine laboratory equipment and instruments.

3.3.1

Equipment. for a homogeneous sample. Comprising. a meat grinder, mixed with chopped meat and other tissue grinder.