

ICS 67.040
CCS X 04



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

GB/T 9695.23-2008

Replacing GB/T 9695.23-1990

**Meat and meat products -- Determination of hydroxyproline
content**

肉与肉制品 羟脯氨酸含量测定

(English Translation)

Issued on: August 28, 2008

Implemented on: March 1, 2009

Issued by: Standardization Administration of China

Table of Contents

- Foreword
- 1 Scope
- 2 Terms and definitions
- 4 Reagents
- 4.3 Chloramine-T solution
- 4.4 Reagent

Foreword

GB/T 9695 consists of the following components.

- GB/T 9695.1 "Meat and meat products - Determination of free fat";
- GB/T 9695.2 "Meat and meat products - Determination of fatty acid";
- GB/T 9695.3 "Meat and meat products - Determination of iron content";
- GB/T 9695.4 "Meat and meat products - Determination of total phosphorus content";
- GB/T 9695.5 "Meat and meat pH measurement";
- GB/T 9695.6 "meat Carmine colorant determination";
- GB/T 9695.7 "Meat and meat products - Determination of total fat content";
- GB/T 9695.8 "Meat and meat products - Determination of chloride content";
- GB/T 9695.9 "Meat and meat products polyphosphate determination";
- GB/T 9695.10 "meat and meat products BHC and DDT residues determination";
- GB/T 9695.11 "Meat and meat products - Determination of nitrogen content";
- GB/T 9695.13 "Meat and meat products - Determination of calcium content";
- GB/T 9695.14 "meat starch content determination";
- GB/T 9695.15 "Meat and meat products - Determination of moisture content";
- GB/T 9695.17 "Meat and meat products - Determination of glucono-lactone -delta-content";
- GB/T 9695.18 "Meat and meat products - Determination of ash";
- GB/T 9695.19 "Meat and meat sampling method";

- GB/T 9695.20 "Meat and meat products - Determination of zinc";
- GB/T 9695.21 "Meat and meat products - Determination of magnesium content";
- GB/T 9695.22 "Meat and meat products - Determination of copper content";
- GB/T 9695.23 "Meat and meat products - Determination of hydroxyproline content";
- GB/T 9695.24 "Meat and meat cholesterol content determination";
- GB/T 9695.25 "Meat and meat products - Determination of vitamin PP";
- GB/T 9695.26 "Meat and meat products - Determination of vitamin A content";
- GB/T 9695.27 "Meat and meat products - Determination of vitamin B1";
- GB/T 9695.28 "Meat and meat products - Determination of vitamin B2";
- GB/T 9695.29 "Meat vitamin C content determination";
- GB/T 9695.30 "Meat and meat products - Determination of vitamin E content";
- GB/T 9695.31 "Meat total sugar content determination." this section GB/T 9695 the first part 23.

1994 "Meat and meat products --- hydroxyproline determination" (in English). This section is equivalent to International Standard ISO 3496 adoption.

For ease of use, this section made the following editorial changes.

- Delete ISO 3496 preface;
- With "this Part" instead of "this International Standard";
- By decimal points instead of ISO 3496 as a decimal point, "";
- To Chapter 4, "agent" in the standard stock solution and standard working solution increases the number;
- With GB/T 9695.19 instead of ISO 3100-1;

GB/T 9695.23-2008/ISO 3496:1994

- The formula increases the number.

This Part replaces GB/T 9695.23-1990 "Meat and meat products L (-) - hydroxyproline determination." this section compared with the GB/T 9695.23-1990 The main changes are as follows.

- 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 method" has been restructured and text modify;
- Stannous sulfate solution instead of hydrochloric acid hydrolysis of the sample;

- Modified chloramine T solution and formulating chromogenic agent;
- Change before the sample processing and measuring operation;
- With Chapter 10, "precision" and its contents instead of Chapter 9, "allows poor" and its contents;
- Added "Test Report" chapter.

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

This section drafted by. China Chamber of Commerce Business Standard Centre, the National Food Quality Supervision and Inspection Center Processing (Guangzhou), Guangzhou Product quality supervision and inspection.

1 Scope

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

This section applies to the determination Meat and meat content of less than 0.5% (mass fraction) of hydroxyproline in.

2 Terms and definitions

The following terms and definitions apply to this part of the GB/T 9695's.

Under the conditions specified in this determination of hydroxyproline content.

Hydroxyproline content expressed in mass fraction.

Principle 3

105 °C hydrolysis with sulfuric acid at the sample, filtered, diluted hydrolyzate. Hydroxyproline after chloramine T oxidation, and on-dimethylaminobenzaldehyde the reaction to form a red compound, at a wavelength of 558nm at the colorimetric determination.

4 Reagents

Unless otherwise specified, the reagents were of analytical grade. Water is distilled or deionized water, or the same purity water.

Measure 750mL of water in a 2L volumetric flask, was added slowly with stirring 320mL of concentrated sulfuric acid ($\rho_{20} = 1.84\text{g/mL}$). Cool to Room temperature water volume.

Comprising the following components.

- a) 26.0g of citric acid monohydrate ($C_6H_8O_7 \cdot H_2O$);
- b) 14.0g of sodium hydroxide;
- c) 78.0g of anhydrous sodium acetate [$Na(CH_3CO_2)$].

With 500mL of water and dissolving the reagent into the 1L flask, was added 250mL n-propanol, water volume.

The solution was dark at 4 °C stable for several weeks.

4.3 Chloramine-T solution

Weigh 1.41g trihydrate · N- chloro - toluene sulfonamide sodium salt (chloramine T), by 100mL of buffer solution (4.2) was dissolved.

Pro preparation before use.

4.4 Reagent

Weigh 10.0g of dimethylaminobenzaldehyde with 35mL of perchloric acid solution [60% (mass fraction)] was dissolved slowly added 65mL isopropyl Propanol. Pro preparation before use.

If dimethylaminobenzaldehyde need for purification (see note 8.4), can be as follows. 70% (volume fraction) for the preparation of hot ethanol dimethylamino Benzaldehyde saturated solution. Successively at room temperature and cooled in a refrigerator, 12h after a Buchner funnel. With a small amount of 70% (volume fraction) B Alcohol Buchner funnel and washed solid. The solid was transferred to a flask with 70% (volume fraction) re-dissolved solids in hot ethanol, adding cold Stir the water to a large number of milky white precipitate crystals in a refrigerator overnight. The solid was filtered with a Buchner funnel, washed with 50% (volume fraction) ethanol After washing, the desiccant phosphorus pentoxide under vacuum drying conditions.

GB/T 9695.23-2008/ISO 3496:1994