



GB 5009.123-2023

National Food Safety Standard

Determination of Chromium in Food

食品安全国家标准 食品中铬的测定

National Health Commission of the People's
Republic of China
State Administration for Market Regulation of the
People's Republic of China

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National Standard of the People's Republic of China

GB 5009.123-2023
In Replacement of GB 5009.123-2014

National Food Safety Standard

Determination of Chromium in Food

食品安全国家标准

食品中铬的测定

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National Health Commission of the People's Republic of China
State Administration for Market Regulation

Foreword

This standard replaces GB 5009.123-2014 "National Food Safety Standard Determination of Chromium in Foods".

Compared with GB 5009.123-2014, the main changes of this standard are as follows:

——The second method "Inductively coupled plasma mass spectrometry" has been added;

——The sample preparation has been modified;

——The wet digestion method, pressure tank digestion method, microwave digestion method and dry digestion method have been modified.

National Food Safety Standard

Determination of Chromium in Food

1. Scope

This standard specifies the determination method of chromium in food by graphite furnace atomic absorption spectrometry and inductively coupled plasma mass spectrometry. This standard applies to the determination of chromium in foods.

Method 1: Graphite Furnace Atomic Absorption Spectrometry

2. Principle

After the sample is digested, it is atomized in a graphite furnace and the absorbance is measured at 357.9 nm. Within a certain concentration range, the absorbance value of chromium is proportional to the chromium content and can be quantitatively compared with the standard series.

3. Reagents and Materials

Unless otherwise specified, all reagents used in this method are of high purity and the water is secondary water as specified in GB/T 6682.

3.1 Reagents

3.1.1 Nitric acid (HNO_3).

3.1.2 Perchloric acid (HClO_4).

3.1.3 Ammonium dihydrogen phosphate ($\text{NH}_4\text{H}_2\text{PO}_4$).

3.2 Reagent preparation

3.2.1 Nitric acid solution (5+95): Measure 50 mL of nitric acid, slowly add it into 950 mL of water and mix well.

3.2.2 Nitric acid solution (1+1): Measure 50 mL of nitric acid, slowly add it into 50 mL of water and mix well.



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