



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

**GB 23200.47-2016**

Replacing SN/T 1740-2006

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**Food safety national standard -- Determination of tetramine  
residues in food by gas chromatography-mass spectrometry**

食品中四螨嗪残留量的测定 气相色谱-质谱法

**(English Translation)**

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## Foreword

This standard will replace SN/T 1740-2006 "in the import and export of four mites in the detection method of gas chromatography tandem mass spectrometry" Compared with SN/T 1740-2006, the main changes are as follows.

- Standard text format is modified to national standard text format for food safety;
- the name of the "import and export food" to "food";
- increase the "other food reference implementation" in the standard range.

This standard replaced the previous version of the standard release.

-SN/T 1740-2006.

National standards for food safety Determination of tetramine residues in food by gas chromatography - mass spectrometry

## 1 Scope

This standard specifies the method of gas chromatography-mass spectrometry for the presence of tetrandrine residues in food (see Appendix A).

This standard applies to the citrus, apple, spinach, broccoli, bovine liver, chicken kidney quadr in the determination of residues, other food can participate According to the implementation of other food can refer to the implementation.

## 2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the date of the note applies this document. For undated references, the latest edition (including all modifications) applies to this document.

GB 2763 National Standard for Food Safety - Maximum Residue Limit of Pesticides in Foodstuffs GB/T 6882 Analytical laboratory water specifications and test methods

## 3 Principle

The samples were extracted with water - acetone (1 4), washed with methylene chloride solution, and purified by gel column.

(Florisil) solid phase column purification, elution concentration and dissolved volume, the gas chromatography - mass spectrometer detection, external standard method quantitative.

## 4 Reagents and materials

Unless otherwise specified, the reagents used are analytically pure and the water is in accordance with the primary water specified in GB/T 6882.

### 4.1 Reagents

#### 4.1.1

Acetone ( $\text{CH}_3\text{COCH}_3$ , CAS. 67-64-1). Chromatographic Purification.

#### 4.1.2

Dichloromethane ( $\text{CH}_2\text{Cl}_2$ , CAS. 75-09-2). Chromatographic pure.

#### 4.1.3

Cyclohexane (C<sub>6</sub>H<sub>12</sub>, CAS. 110-82-7). Chromatographic purity.

#### 4.1.4

Ethyl acetate (C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>, CAS. 141-78-6). Chromatographic pure.

#### 4.1.5

n-Hexane (C<sub>6</sub>H<sub>14</sub>, CAS. 110-54-3). Chromatographic pure.

#### 4.1.6

anhydrous sodium sulfate (Na<sub>2</sub>SO<sub>4</sub>, CAS. 15124-09-1). 650 °C burning 4 h, stored in a sealed container in reserve.

### 4.2 Solution preparation

#### 4.2.1

sodium sulfate aqueous solution (20 g/L). take 20g anhydrous sodium sulfate, water volume to 1000mL, shake back standby.

### 4.3 Standards

#### 4.3.1

Tetracycline reference substance. see Appendix A.

### 4.4 Standard solution preparation

#### 4.4.1

Tetracycline standard stock solution. accurately weighed the appropriate amount of tetramine standard material, with acetone prepared into a concentration of 100 g/mL Standard stock solution, the standard reserve solution away from 0 °C ~ 4 °C preservation, shelf life of 6 months.

#### 4.4.2

Tetracycline standard working solution. According to the testing requirements, respectively, the above standard reserve solution in the volumetric flask, diluted with acetone to the standard preparation of the appropriate concentration of the standard working solution, the standard working solution away from 0 °C ~ 4 °C preservation, shelf life of one month.

### 4.5 Materials

#### 4.5.1

Florisil Solid phase extraction column. 1.0 g, or equivalent.

## 5 Instruments and equipment

### 5.1

Gas Chromatography-Mass Spectrometer. with quality selection detector.

### 5.2

Gel chromatograph. with unit pump and fraction collector.

### 5.3

Analysis of balance. 0.01 g and 0.0001 g.

### 5.4

Rotary Evaporator.

### 5.5

anhydrous sodium sulfate column. 7.5 cm x 1.5 cm (id), built-in 5 cm high anhydrous sodium sulfate.

### 5.6

stoppered conical flask. 250 mL.

### 5.7

separatory funnel. 250 mL.

### 5.8

Concentrated bottles. 50 mL, 250 mL.

### 5.9

Filtration. 0.45 m.

### 5.10

oscillator.

## 6.1.1 Fruits or vegetables

Take 500 g of fruit or vegetable sample (not water wash), and then cut the sample into a slurry with a food masher.

Mix, are divided into two as a sample, into the clean Sheng Sheng bag, sealed and marked.

## 6.1.2 Meat and meat products

Remove a representative sample of about 1 kg, crushed by the mashed evenly, are divided into two, respectively, into the clean container as a test kind. Sealed and marked.

**Note:** The above sample sampling site according to GB 2763 Appendix A implementation.