



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

**GB 23200.36-2016**

Replacing SN/T 2214-2008

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**Food safety national standard -- Determination of chloropropionic acid, fenprothrin,  
furazolidone and thiazole niacin herbicide residues in plant-derived foods by liquid  
chromatography-mass spectrometry / mass spectrometry**

植物源性食品中氯氟吡氧乙酸、氟硫草定、氟吡草胺和噻唑烟酸除草剂残留量的  
测定 液相色谱-质谱 质谱法

**(English Translation)**

**Issued on: December 18, 2016**

**Implemented on: June 18, 2017**

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**Issued by: National Health and Family Planning Commission of the  
People 's Republic of China**

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### Foreword

This standard replaces SN/T 2214-2008 "Flavonoids, Fluorothiocuronide, Fipronil and Hydrazone Herbicides in Import and Export Plant Foods Determination of Residue by Liquid Chromatography - Mass Spectrometry/Mass Spectrometry".

Compared with SN/T 2214-2008, 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 of plant-derived food" to "plant-derived food";

- increase the "other food reference implementation" in the standard range.

This standard replaced the previous version of the standard release.

-SN/T 2214-2008.

National standards for food safety Flavulanic acid, fenpropathrin, furazolidone and thiazole niacin in plant-derived food Determination of residual residue by liquid chromatography - mass spectrometry/mass spectrometry

## 1 Scope

This standard specifies the chlorpyrifluoroacetic acid, fenpropathrin, fluphenhydrazone and thiazole nicotinic acid in the plant source food.

Determination of Chromatography - Mass Spectrometry/Mass Spectrometry.

This standard applies to cabbage, corn and oranges in the chlorofluoropyoxyacetic acid, fenpropathrin, fenugreosone and thiazole nicotinic acid four kinds of pyridine Determination and determination of herbicide residues, 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 dated edition applies to this article Pieces. 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 6682 Analytical laboratory water specifications and test methods

## 3 Principle

The residual chlorofluoropyoxyacetic acid in the sample, fenpropathrin, furazolidone and thiazole niacin were extracted with acetonitrile and purified by Supelclean C18 solid Phase extraction column, with liquid chromatography - mass spectrometry/mass spectrometry detection and confirmation, external standard method quantitative.

## 4 Reagents and materials

Unless otherwise specified, all reagents are of analytical grade and water is in accordance with the primary water specified in GB/T 6682.

## 4.1 Reagents

### 4.1.1

Acetonitrile (CH<sub>3</sub>CN). Chromatographically pure.

### 4.1.2

Methanol (CH<sub>3</sub>OH). Chromatographic Purification.

### 4.1.3

Formic acid (HCOOH). Chromatographic pure.

### 4.1.4

Sodium chloride (NaCl).

## 4.2 Solution preparation

4.2.1 0.1% formic acid in water solution. Accurately absorb 1 mL of formic acid, transfer into a 1 000 mL volumetric flask, set the volume to the mark with water, mix Evenly.

4.2.2 0.1% formic acid - methanol (50 50, V/V). Take 0.1% formic acid as an aqueous solution 500 mL to 1 000 mL volumetric flask.

Methanol constant volume to the scale, mixed evenly.

## 4.3 Standards

### 4.3.1

Pyridine Herbicides Standard. See Appendix A.

## 4.4 Standard solution preparation

### 4.4.1

standard reserve solution. accurately weighed the appropriate amount of chlorofluorophenoxy acetic acid, fenpropathrin, thiazole nicotinic acid were dissolved with methanol and volume to Brown volumetric flask, the concentration is equivalent to 500 mg/L, the stock solution can be stored at 0 °C ~ 4 °C dark for 6 months.

### 4.4.2

mixed standard intermediate solution. accurate absorption of the appropriate amount of chlorofluoropyoxy acetic acid, fenpropathrin, thiazole niacin standard reserve solution in brown capacity and the addition of other pyridine herbicides and other concentrations of picarbazone hydrazone, with a fixed volume of methanol to the scale, a variety of pyridine herbicides Concentration of 1 mg/L, the intermediate solution can be stored at 0 °C ~ 4 °C dark for 1 month.

#### **4.4.3**

mixed standard working solution. according to need, before use to absorb a certain amount of mixed standard intermediate solution, with a blank sample matrix solution Preparation.

### **4.5 Materials**

#### **4.5.1**

Solid phase extraction column. Supelclean C18,500 mg/3 mL, or equivalent. Before use with 5 mL acetonitrile treatment, keep the column wet Run.

#### **4.5.2**

Microporous membrane. 0.22  $\mu\text{m}$ , organic phase type.

## **5 Instruments and equipment**

#### **5.1**

Liquid Chromatography - Mass Spectrometry/Mass Spectrometer with ESI Ion Source.

#### **5.2**

Balance. 0.0001 g and 0.01 g.

#### **5.3**

Crusher.

#### **5.4**

Polypropylene centrifuge tube. 15 mL and 50 mL, with plug.

#### **5.5**

Centrifuge. 5 000 r/min.

#### **5.6**

Scroll Mixer.

#### **5.7**

blowing nitrogen enrichment instrument.

#### **5.8**

solid phase extraction device.

### **6.1.1 Chinese cabbage and oranges**

Take about 500 g of the sample, (not water wash). After shredding, the sample is processed into a slurry, mixed, Sealed, marked and marked.