



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

GB 23200.20-2016

Replacing SN/T 1973-2007

**Food safety national standard -- Determination of abamectin
residues in food by liquid chromatography-mass spectrometry /
mass spectrometry**

食品中阿维菌素残留量的测定 液相色谱-质谱 质谱法

(English Translation)

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Foreword

This standard replaces SN/T 1973-2007 "Determination of abamectin residues in food for import and export by high performance liquid chromatography-mass spectrometry/mass spectrometry law".

Compared with SN/T 1973-2007, 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 1973-2007.

National standards for food safety Determination of abamectin residues in food by liquid chromatography - mass spectrometry/mass spectrometry

1 Scope

This standard specifies the high performance liquid chromatography-mass spectrometry/mass spectrometry method for the determination of abamectin residues in food.

This standard applies to rice, garlic, spinach, apple, chestnut, tea, beef, lamb, chicken, fish, red peony, vinegar and Determination of abamectin residues in honey, 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 file. 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

Honey and vinegar samples were diluted with water and purified by C18 solid phase extraction column. Other samples were extracted with acetonitrile and treated with neutral alumina Extraction column purification, high performance liquid chromatography - mass spectrometry/mass spectrometry, external standard method.

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. pure chromatography.

4.1.2

anhydrous sodium sulfate. 650 °C before burning 4 h, in the dryer to cool to room temperature, stored in a sealed bottle in reserve.

4.2 Solution preparation

4.2.1

acetic acid aqueous solution (0.1%). take 1 mL of acetic acid, the volume of water to 1000 mL.

4.2.2

acetonitrile aqueous solution (16, V/V). take 100 mL of acetonitrile, add 600 mL of water, shake back.

4.3 Standards

4.3.1

Avermectin standard substance. (Abamectin, C₄₈H₇₂O₁₄, CAS No. 71754-41-2), abamectin B1a content is greater than 87%, the following abamectin content are avermectin B1a dollars.

4.4 Standard solution preparation

4.4.1

abamectin standard stock solution. Weigh the appropriate amount (accurate to 0.0001 g) abamectin standard substance, acetonitrile dissolved in the preparation of the concentration for 100 g/mL standard stock solution, stored in -18 °C refrigerator.

4.4.2

avermectin standard intermediate. accurate removal of avermectin standard stock solution, diluted with acetonitrile prepared with 1 g/mL concentration of the standard Quasi-intermediate liquid. Store in 4 °C refrigerator.

4.4.3

abamectin standard working solution. according to the need to accurately remove the appropriate amount of avermectin standard intermediate, diluted with acetonitrile and set to the appropriate concentration Degree of standard working fluid. Store in 4 °C refrigerator.

4.5 Materials

4.5.1

Neutral Alumina Solid Phase Extraction Column. 1000 mg, 3 mL.

4.5.2

C18 solid phase extraction column. 1000 mg, 6 mL.

4.5.3

Organic filter. 0.45 m.

5 Instruments and equipment

5.1

High Performance Liquid Chromatography-Mass Spectrometry/Mass Spectrometer with Atmospheric Pressure Chemical Ionization Source (APCI Source)

5.2 Analysis of balance. 0.01 g and 0.0001 g

5.3 Homogenizer.

5.4 Centrifuge, 3000 r/min or more.

5.5 Vortex Oscillator.

5.6 solid phase extraction device.

5.7 Rotary Evaporator.

5.8 nitrogen blowing instrument.

6.1.1 Apple, garlic, spinach, chestnut

Apple, chestnut. take the sample about 500 g, crushed with a crusher, into a clean container as a sample, sealed and do a good job; garlic, Spinach. take the sample about 500 g, crushed with a mashed machine, into a clean container as a sample, sealed and do a good job.

6.1.2 Rice, tea, red peony, vinegar

Take about 500 g of the sample and crush it all through a 850 µm sieve into a clean container as a sample, seal and mark it;

Vinegar can be packed in clean containers, sealed and marked.

6.1.3 Beef, lamb, chicken, fish

Take a representative sample of about 500 g, crushed with a mashed machine, into a clean container as a sample, sealed and labeled.