



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

GB 23200.7-2016

Replacing GB/T 19426-2006

**Food safety national standard -- Determination of 497
pesticides and related chemical residues in honey, fruit juice
and fruit wine -- Gas chromatography-mass spectrometry**

蜂蜜、果汁和果酒中497种农药及相关化学品残留量的测定 气相色谱-质谱法

(English Translation)

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Foreword

This standard replaces GB/T 19426-2006 "Determination of 497 pesticides and related chemical residues in honey, fruit juice and fruit wine.

Spectrum - mass spectrometry ".

This standard compared with GB/T 19426-2006, the main changes are as follows.

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

This standard replaced the previous version of the standard release.

-GB/T 19426-2006.

National standards for food safety Determination of 497 pesticides and related chemical residues in honey, fruit juice and fruit wine Gas chromatography - mass spectrometry

1 Scope

This standard specifies the residues of 497 pesticides and related chemicals in honey, fruit juice and fruit wine (see Appendix A). Gas Chromatography-Mass Spectrometry Method.

This standard applies to the determination of 497 pesticides and related chemical residues in honey, fruit juice and fruit wine. Other foods can be used for reference.

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 samples were extracted with dichloromethane, in series with Envi-Carb1) and Sep-Pak-NH2

2) column, eluting with acetonitrile-toluene solution (3 1) Pesticides and related chemicals, with gas chromatography - mass spectrometry.

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 (CH₃CN, 75-05-8). Chromatographic Purification.

4.1.2

Acetone (CH₃COCH₃, 67-64-1). Chromatographic Purification.

4.1.3

dichloromethane (CH₂Cl₂, 75-09-2). chromatographic purity.

4.1.4

anhydrous sodium sulfate (Na₂SO₄, 7757-82-6). analytical grade. Before burning at 650 °C for 4h, stored in a dryer, cooling and standby.

4.1.5

Toluene (C₇H₈, 108-88-3). Excellent grade pure.

4.1.6

n-hexane (C₆H₁₄, 110-54-3). pure chromatography.

4.2 Standards

Pesticide and Related Chemical Reference Material. Purity $\geq 95\%$, see Appendix A.

4.3.1 Standard stock solution

Were weighed 5mg ~ 10mg (accurate to 0.1mg) pesticides and related chemicals in the standard 50mL beaker, according to the standard Dissolved in toluene, - acetone mixture, dichloromethane and other solvents dissolved, transferred to 10mL volumetric flask, respectively, with the corresponding (See Appendix A for solvent selection). The standard solution is stored at 4 ° C for 4 months. The shelf life is one month.

4.3.2 Mixing standard solutions (mixed standard solutions A, B, C, D and E)

497 pesticides and related chemicals are divided into five groups A, B, C, D and E according to the retention time of pesticides and related chemicals, and Depending on the response sensitivity of each pesticide and associated chemical on the instrument, determine its mass concentration in the mixed standard solution. This is the standard the grouping of 497 pesticides and related chemicals and their mixed standard solution mass concentrations are given in Appendix A.

Depending on the group number of each pesticide and associated chemical, the mass concentration of the mixed standard solution and the mass concentration of the standard stock solution A certain amount of standard pesticide and related chemicals standard stock solution in 100mL volumetric flask, with toluene volume to the scale. Mix the standard solution Dark 4 ° C preservation, shelf life of one month.

4.3.3 Internal standard solution

Accurately weighed 3.5mg epoxy heptachlor in 50mL beaker, dissolved in toluene and then transferred into a 100mL volumetric flask, with toluene volume to Scale.

4.3.4 Matrix mixed standard working solution

40 μ l of the internal standard solution (4.3.3) and a volume of the mixed standard solution were added to 1.0 mL of the sample blank matrix extract, Mix, mix into matrix mixed standard working solutions A, B, C, D and E. Matrix mixed standard working solution should be used with the current distribution.

4.4 Materials

4.4.1

Envi-Carb Column. 6 mL, 0.5 g or equivalent.

4.4.2

Sep-Pak-NH₂ column. 3 mL, 0.5 g or equivalent.

5 Instruments and equipment

5.1

Gas Chromatography-Mass Spectrometer. Equipped with an electron impact source (EI).

5.2

Analysis of balance. 0.01 g and 0.0001 g.

5.3

chicken heart bottle..200 mL.

5.4

Pipettes. 1 mL.

5.5

stoppered conical flask. 250 mL.

5.6

separatory funnel. 250 mL.

5.7

cylindrical funnel.

6 Sample preparation

For non-crystalline honey samples, stir them evenly. For crystalline samples, in a sealed case, place a water bath at a temperature not exceeding 60 ° C in the warm, shaking, until the sample all melt and stir well, quickly cooled to room temperature. 0.5 kg as a sample, placed in a vial, sealed, and mark the mark.

Juice, wine samples, all the original samples will be made into a clean enamel mixed barrels, stir and mix thoroughly, and then mix the same the goods are packed in two copies (500 mL each), sealed as a sample, marked with a mark.