



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

GB 23200.94-2016

Replacing SN/T 1920-2007

**Food safety national standard -- Determination of Trichlorfon,
Dichlorvos and Phytophthora Phosphorus Residues in Animal Foods
by Liquid Chromatography-Mass Spectrometry / Mass Spectrometry**

动物源性食品中敌百虫、敌敌畏、蝇毒磷残留量的测定 液相色谱-质谱 质谱法

(English Translation)

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Foreword

This standard replaces SN/T 1920-2007 "detection method of trichlorfon, dichlorvos and levophos residues in animal-derived foodstuffs Liquid chromatography-mass spectrometry/mass spectrometry".

Compared with SN/T 1920-2007, the main changes are as follows.

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

This standard replaced the previous version of the standard release.

-SN/T 1920-2007.

National standards for food safety Determination of trichlorfon, dichlorvos and levophos residues in animal - derived foods Liquid chromatography - mass spectrometry/mass spectrometry

1 Scope

This standard specifies the sample preparation and liquid chromatography for the residues of trichlorfon, dichlorvos, and leopophylla in livestock, poultry flesh, salted casings and honey Method of mass spectrometry/mass spectrometry.

This standard applies to the separation of meat, salted casings and honey trichlorfon, dichlorvos, flies phosphorus residue determination, other food can refer to carried out.

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

Samples of trichlorfon, dichlorvos, flies toxic phosphorus extracted with dichloromethane or ethyl acetate, the extract is concentrated, degreasing, with liquid color Spectrum - mass spectrometry/mass spectrometry, external standard area method quantitative, sub - ion abundance ratio qualitative.

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

4.1.2

acetonitrile (CH₃CN). high performance liquid chromatography grade.

4.1.3

Methanol (CH₃OH). High performance liquid chromatography grade.

4.1.4

Ethyl acetate (C₄H₈O₂).

4.1.5

Bichloromethane (CH₂Cl₂).

4.1.6

Cyclohexane (C₆H₁₂).

4.1.7

sodium sulfate (Na₂SO₄). 650 °C burning 4 h, in the dryer to cool to room temperature, stored in a sealed bottle in reserve.

4.1.8

ammonium acetate (CH₃COONH₄). excellent grade pure or equivalent.

4.2 Solution preparation

4.2.1 50 mmol/L ammonium acetate solution. Weigh 0.385 g of ammonium acetate in 1 000 mL of water

4.3 Standards

4.3.1

Trichlorfon (CAS. 52-68-6, Molecular formula. C₄H₈Cl₃O₄P) Standard. purity ≥ 98.0%.

4.3.2

dichlorvos (Dichlorvos, CAS. 62-73-7, molecular formula. C₄H₇Cl₂O₄P) standard. purity ≥ 97.6%.

4.3.3

Flamingophos (Coumaphos, CAS. 56-72-4, Molecular formula. C₁₄H₁₆ClO₅PS) Standard. Purity ≥ 99.9%.

4.4 Standard solution preparation

4.4.1

standard stock solution. respectively, accurately weighed appropriate trichlorfon, dichlorvos, flies phosphorus standard, with methanol prepared into a concentration of 100 µg/mL
Concentration of mixed standard stock solution. The solution in 0 °C ~ 4 °C refrigerator in the dark, can be used for 3 months.

4.4.2

blank sample extract. with no trichlorfon, dichlorvos, flies phosphorus residue samples, according to 7.1 prepared blank sample extract.

4.4.3 Standard working solution. Standard stock solution is diluted to 50 ng/mL, 100 ng/mL,.200

Ng/mL, 500 ng/mL mixed standard working solution. Placed in 0 °C ~ 4 °C refrigerator in the dark, can be used for 3 days.

5 Instruments and equipment

5.1

High Performance Liquid Chromatography - Mass Spectrometry/Mass Spectrometer. Triple Quadrupole Mass Spectrometer, Distribution Spray Ion Source (ESI) or equivalent.

5.2

Analysis of balance. 0.01 g and 0.0001 g.

5.3

Ultrasonic cleaner.

5.4

Vortex Mixer.

5.5

Rotary Evaporator.

5.6

Centrifuge. 5000 r/min.

5.7

homogenizer.

5.8 0.45 µm microporous membrane.

6.1.1 Split meat

Take a typical sample of about 500 g, broken with a tissue crusher, into a clean container as a sample, sealed and labeled.

6.1.2 Casing

Take a representative sample of about 100 g, cut with scissors to less than 2 mm, into a clean container as a sample, sealed and labeled.