



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

GB 23200.4-2016

Replacing SN/T 1737.4-2010

**Food safety national standard -- Methods for the determination of herbicide
residues -- Part 4: Determination of aryloxyphenoxypropionate herbicides in food
by gas chromatography-mass spectrometry / mass spectrometry**

除草剂残留量检测方法 第4部分：气相色谱-质谱 质谱法测定 食品中芳氧苯氧丙
酸酯类除草剂残留量

(English Translation)

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Foreword

This standard replaces SN/T 1737.4-2010 "Method for the determination of herbicide residues Part 4. Determination of access to and out of gas and mass spectrometry Oral products in the aryloxyphenoxypropionate ".

Compared with SN/T 1737.4-2010, 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 1737.4-2010.

National standards for food safety Method for determination of herbicide residue Part 4.
Determination of Aryloxyphenoxypropyl in Food by Gas Chromatography - Mass Spectrometry/Mass Spectrometry Acid herbicide residues

1 Scope

This standard stipulates that the food in the 2,4-dibutyl ester, fluphenazine, pheophorone, acetylclorvir, grass grass, cyhalothrin, oxazole Determination of Aromatic Phenoxy Propionate Herbicide Residue by Gas Chromatography - Mass Spectrometry/Mass Spectrometry.

This standard applies to soybeans, barley tea, japonica rice, carrots, spinach, green concanavalin, garlic, strawberry, honey, pork, fish, eggs in the 2,4-D butyl ester, fluphenazine, pherofen grass spirit, acetophene grass, grass grass, cyhalothrin, oxazole grass spirit, quinoxaline residues of the determination and confirmation, 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 aryloxyphenoxypropionate herbicide in the sample was extracted with n-hexane saturated acetonitrile (containing 1% glacial acetic acid), and the matrix was dispersed in solid phase Extraction and purification, with gas chromatography - mass spectrometry/mass spectrometry, 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.

4.1.1 Acetonitrile (CH₃CN). Chromatographically pure

4.1.2 n-hexane (C₆H₁₄). pure chromatography.

4.1.3 Acetone (C₃H₆O). Chromatographic pure.

4.1.4 glacial acetic acid (C₂H₄O₂).

4.1.5 anhydrous sodium acetate (C₂H₃ONa).

4.1.6 anhydrous magnesium sulfate (MgSO₄).

4.2 Solution preparation

4.2.1

Extraction solvent (1% acetic acid in n-hexane saturated acetonitrile solution). add 10 mL of glacial acetic acid to 990 mL of acetonitrile (prior Saturated with n-hexane).

4.3 Standards

4.3.1

Aryloxyphenoxypropionate Herbicide Standard. 2,4-D butylate, CAS No. 94-80-4, Molecular formula.

C₁₂H₁₄Cl₂O₃, purity > 97.1%); fluorofenrofen (CAS. 69806-34-4, molecular formula.

C₁₅H₁₁ClF₃NO₄, pure (Fluazifop, CAS No. 69335-91-7, molecular formula.

C₁₅H₁₂F₃NO₄, purity ≥ 99%); alkyne (Clodinafop-propargyl, CAS number. 105512-06-9, molecular formula. C₁₇H₁₃ClFNO₄, purity ≥ 99.0%); grass (Diclofop, CAS. 51338-27-3, molecular formula. C₁₆H₁₄Cl₂O₄, purity ≥ 96.5%); Cyhalofop-butyl CAS No..

122008-85-9, Molecular formula. C₂₀H₂₀FNO₄, purity ≥ 99.0%); oxazolum (Fenoxaprop, CAS. 95617-09-7, Molecular formula. C₁₆H₁₂ClNO₅, purity ≥ 99%); Quizalofop-P-ethyl, CAS No.. 100646-51-3, molecular formula.

C₁₉H₁₇ClN₂O₄, purity ≥ 99.5%).

4.4 Standard solution preparation

4.4.1

Aryloxyphenoxypropionate Herbicide Standard stock solution. accurately weighed the standard amount of aryloxyphenoxypropionate herbicides, Acetone dissolved, diluted and constant volume, respectively, prepared into a 100 µg/mL single standard stock solution, the solution can be 0 °C ~ 4 °C under the conditions to avoid Light storage for 6 months.

4.4.2

Mixing standard intermediate solution. Accurate extraction of the standard stock solution for each aryloxyphenoxypropionate 5.0 mL in 50 mL of brown Flask, diluted with acetone to the

mark line after the preparation of a concentration of 10.0 µg/mL mixed standard intermediate solution, the solution can be 0 °C ~ 4 °C Under the conditions of storage for 3 months.

4.4.3

mixed standard working solution. if necessary, then diluted with acetone to the appropriate concentration of mixed standard working solution, is now available.

4.5 Materials

4.5.1

Ethylenediamine-N-propylsilane (PSA) Filler. 40 µm to 60 µm.

4.5.2

Graphitized carbon black filler. 120 µm -400 µm.

4.5.3

Octadecylsilane (ODS) Filler. 60 µm to 100 µm.

4.5.4

Filtration. 0.45 µm, organic phase.

5 Instruments and equipment

5.1

Gas Chromatography - Mass Spectrometry/Mass Spectrometry.

5.2

Oscillator.

5.3

Electronic balance. 0.01 g and 0.0001 g.

5.4

Scroll Mixer.

5.5

Tissue crusher.

5.6

pulverizer.

5.7

Rotary Evaporator.