



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

GB 23200.28-2016

Replacing SN/T 3541-2013

**Food safety national standard -- Determination of residues of
various herbicides in foodstuffs -- Gas chromatographic-mass
spectrometry**

食品中多种醚类除草剂残留量的测定气相色谱-质谱法

(English Translation)

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Foreword

This standard replaces SN/T 3541-2013 "Method for the determination of residues of various herbicides in foodstuffs for import and export. Gas Chromatography - Negative Chemistry Ion source - mass spectrometry".

Compared with SN/T 3541-2013, 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 3541-2013.

National standards for food safety Determination of Residues of Various Ether Herbicides in Food Gas chromatography - mass spectrometry

1 Scope

This standard specifies the method for the determination of phenylether herbicides in food by gas chromatography-negative chemical ion source-mass spectrometry.

This standard applies to rice, soybeans, spinach, green onions, peppers, strawberries, sweet peas, green tea, lobster, eel, pork, honey, and other 12 kinds of food ether herbicide residue 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/T 6682 Analytical laboratory water specifications and test methods GB 2763 National Standard for Food Safety - Maximum Residue Limit of Pesticides in Foodstuffs

3 Principle

The samples were extracted with n-hexane saturated acetonitrile (containing 1% glacial acetic acid), dispersed by solid phase extraction, gas chromatography - negative chemical ion source Spectral method for determination 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_3CN). Chromatographically pure.

4.1.2

n-hexane (C_6H_{14}). pure chromatography.

4.1.3

Acetone ($\text{C}_3\text{H}_6\text{O}$). Chromatographic pure.

4.1.4

glacial acetic acid ($\text{C}_2\text{H}_4\text{O}_2$).

4.1.5

anhydrous magnesium sulfate (MgSO_4).

4.1.6

anhydrous sodium acetate ($\text{C}_2\text{H}_3\text{ONa}$).

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

Reference material. Fluorodafen (CAS. 15457-05-3), Oxyfluorfen, CAS.

42874-03-3), herbicidal ether (Nitrofen, CAS. 1836-75-5), benzoyl ether (Aclonifen, CAS. 74070-46-5), piccon Lt;/RTI & (Ethoxyfen-ethyl, CAS. 131086-42-5), methicillin ether (Chlomethoxyfen, CAS. 32861-85-1), Ether (Bifenox, CAS. 42576-02-3), Lactofen (CAS. 77501-63-4) and Fenflufen (Fluoroglycofen-ethyl, CAS. 77501-90-7). purity $\geq 98.0\%$.

4.4 Standard solution preparation

4.4.1

Pesticide standard stock solution. accurately weighed the appropriate amount of the standard, diluted with acetone prepared into 1.00 mg/mL single the standard stock solution is stored at 4 ° C (valid for 6 months).

4.4.2

mixed standard stock solution. respectively, the exact removal of the appropriate amount of the above standard stock solution, diluted with acetone prepared into 50 µg/mL mixture the standard stock solution is stored at 4 ° C (valid for 6 months).

4.4.3

mixed standard working solution. according to the need to use acetone diluted to the appropriate concentration of the standard working solution, stored at 4 °C (valid for 3 Month).

4.5 Materials

4.5.1

Graphitized carbon black filler. 40 µm.

4.5.2

PSA (N-2 aminoethyl) filler. 40 µm.

4.5.3

C18 Filler. 40 µm.

4.5.4

Microporous membrane. 0.45 µm, organic phase.

5 Instruments and equipment

5.1

Gas Chromatography-Mass Spectrometer. Configure a negative chemical ion source (NCI source).

5.2

Analysis of balance. 0.1 mg and 0.01 g.

5.3

Rotary Evaporator.

5.4 Tissue crusher

5.5 Crusher.

5.6 Homogenizer.

5.7 Oscillator.