



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

GB 23200.24-2016

Replacing SN/T 0712-2010

**Food safety national standard -- Determination of 11 Herbicide
Residues in Grain and Soybeans -- Gas Chromatography --
Mass Spectrometry**

粮谷和大豆中11种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 0712-2010 "Determination of 11 herbicides in cereals and soybeans for import and export by gas chromatography-mass spectrometry".

Compared with SN/T 0712-2010, 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 grain" to "grain".

- increase the "other food reference implementation" in the standard range.

This standard replaced the previous version of the standard release.

-SN 0712-1997

-SN/T 0712-2010.

National standards for food safety Determination of 11 Herbicide Residues in Grain and Soybeans - Gas Chromatography - Mass Spectrometry

1 Scope

This standard specifies the method for the determination of 11 herbicides in grain and soybeans by gas chromatography-mass spectrometry.

This standard applies to rice, corn, wheat and soybean in the acetochlor, pentachlor, alachlor, metolachlor, pendimethalin, grass Amines, fluoroamides, propanamides, oxamine, pyriothione and pendimethacrylide residues in 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 herbicides in the sample were extracted with n-hexane and acetone, and the extract was concentrated by a neutral alumina solid phase extraction column or florisilide Solid phase extraction column purification, gas chromatography - mass spectrometry detection and confirmation, external standard 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

Acetone (C₃H₆O). Chromatographic pure.

4.1.2

n-hexane (C₆H₁₄). pure chromatography.

4.1.3

Acetonitrile (CH₃CN). Chromatographic Purification.

4.1.4

Sodium chloride (NaCl).

4.1.5

anhydrous sodium sulfate (Na₂SO₄). 650 °C burning 4 h, placed in the dryer to spare.

4.2 Solution preparation

4.2.1

n-Hexane - acetone solution (2 1, volume ratio). take.200 mL of n-hexane, add 100 mL of acetone, shake back.

4.2.2

n-hexane - acetone solution (9 1, volume ratio). take 900 mL of n-hexane, add 100 mL of acetone, shake back.

4.2.3

n-hexane - acetone solution (8 2, volume ratio. take 800 mL of n-hexane, add.200 mL of acetone, shake back.

4.3 Standards

4.3.1 11 kinds of herbicide standards. purity >= 95.0%.

4.4 Standard solution preparation

4.4.1

Standard stock solution. Pesticide standard is accurately weighed (see Appendix A), with n-hexane were prepared into a concentration of 100 µg/mL ~ 1000 µg/mL standard stock solution. Standard stock solution at -18 °C under the conditions of storage; if necessary, then diluted with n-hexane to the appropriate concentration of the standard Quasi-working fluid, stored at 0 °C ~ 4 °C.

4.5 Materials

4.5.1

Neutral alumina solid phase extraction column. 1000 mg, 6 mL. Before use with 3 mL of acetone in advance, 5 mL n-hexane activation, prepared use.

4.5.2

Fluoresa Silica Solid Phase Extraction Column. 500 mg, 6 mL. Before use with 3 mL of acetone in advance, 5 mL n-hexane activation, prepared use.

5 Instruments and equipment

5.1

Gas Chromatography-Mass Spectrometer (GC-MSD). Equipped with electron impact ionization source (EI).

5.2

Electronic balance. sensed 0.0001 g and 0.01 g.

5.3

Solid phase extraction device.

5.4

pulverizer.

5.5

Centrifuge, 5000r/min.

5.6

vortex mixer.

5.7

Rotary Evaporator.

5.8

homogenizer,.20000r/min.

5.9

Concentrated Bottle. 100 mL.

5.10

with a centrifuge tube. 15 mL, 50 mL.

5.11

anhydrous sodium sulfate column. 8.0 cm. min. 01 g ID) glass column with 5 cm high anhydrous sodium sulfate.