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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 23200.1-2016

Replacing SN/T 1737.1-2006

Food safety national standard -- Methods for the determination of herbicide residues -- Part 1: Determination of amide herbicides in grain and oilseeds by gas chromatography-mass spectrometry

除草剂残留量检测方法 第1部分：气相色谱-质谱法测定 粮谷及油籽中酰胺类除草剂残留量

(English Translation)

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Foreword

This standard replaces SN/T 1737.1-2006 "Method for the determination of herbicide residues Part 1. Determination of grain grains by gas chromatography-tandem mass spectrometry and residual residues of amide herbicides in oilseeds ".

Compared with SN/T 1737.1-2006, the main changes are as follows.

- Standard text format is modified to national standard text format for food safety;

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- 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 1737.1-2006.

National standards for food safety Method for determination of herbicide residue Part 1. Determination of amide herbicides in grain and oilseeds by gas chromatography - mass spectrometry Agent residue

1 Scope

This standard specifies the sampling, sample preparation and method for the determination of amide herbicide residues in grain and oilseeds.

This standard applies to rice, soybean amide herbicide residue quantitative determination of 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 herbicide in the sample was extracted with acetone and water. After removal of acetone from the extract, the sodium chloride solution was added, extracted with n-hexane, Concentrated n-hexane extract, and then extracted with acetonitrile, Florisil solid phase extraction column purification, sample gas supply gas chromatography - mass spectrometry, external standard Quantitative quantity.

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

n-hexane (C_6H_{14}). chromatographic purity.

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4.1.2
acetonitrile (CH3CN). pure chromatography.

4.1.3
Acetone (CH3COCH3). Chromatographic pure.

4.1.4
ether ((C2H5) 2O). chromatographic purity.

4.1.5
anhydrous sodium sulfate (Na2SO4). 650 ° C burning 4 h, after cooling placed in the dryer in reserve.

4.1.6
Sodium chloride (NaCl). Analytical purity.

4.2 Solution preparation

4.2.1
Sodium chloride solution. 10% (m/v), 100 g of sodium chloride was dissolved in water and diluted to 1000 mL.

4.2.2
extract agent I. acetonitrile by adding a small amount of n-hexane saturation, shake.

4.2.3
extract agent II. n-hexane by adding a small amount of acetonitrile saturation, shake.

4.2.4
N-Hexane - Ethyl Ether (85 15). Take 85 mL of n-hexane and 15 mL of ether and mix well.

4.3 Standards

4.3.1
Chlorpyrifos, Atrazine, Acetochlor, Dimethalchenamine, Alachlor, Nitrazone, Propellaben, Propoxurine, Butachlor, Propane Amine, prednisamine standard (see Appendix A for specific information), purity greater than 98%.

4.4 Standard solution preparation

4.4.1
accurately weighed 25 ± 0.1 mg standard in 50 mL volumetric flask, dissolved with acetone and volume, get the concentration of 500 g/mL Single standard stock solution, the solution in 0 ~ 4 °C can be stored for 3 months. According to the need to use acetone diluted stock

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solution, prepared into the appropriate concentration of mixed Standard solution, the solution in 0 ~ 4 °C can be stored for 1 month.

4.5 Materials

4.5.1
Florisil Solid Phase Extraction Column. 125 mg, 3 mL, or equivalent. Before use, use 5 mL n-hexane-ether solution and 5 mL N-hexane pre-leaching column at a flow rate of 1 d/sec.

5 Instruments and equipment

5.1
Gas Chromatography - Mass Spectrometer.

5.2
Analysis of balance. 0.01 g and 0.0001 g.

5.3
Rotary Evaporator.

5.4
solid phase extraction device.

5.5
blowing nitrogen enrichment instrument.

5.6
vortex mixer.

5.7
homogenizer.

5.8
Centrifuge.

5.9
Eggplant bottle. 100 mL, 250 mL.

5.10
Centrifuge tube. 15 mL, 50 mL.

5.11
Microinjector. 10 μL.

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