



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

GB 23200.5-2016

Replacing SN/T 1737.5-2010

**Food safety national standard -- Methods for the determination of herbicide
residues -- Part 5: Determination of thiocarbamate herbicides in food by liquid
chromatography-mass spectrometry / mass spectrometry**

除草剂残留量检测方法 第5部分：液相色谱-质谱 质谱法测定 食品中硫代氨基甲
酸酯类除草剂残留量

(English Translation)

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Foreword

This standard replaces SN/T 1737.5-2010 "Determination of thiourethane herbicide residues in import and export foods Liquid phase color Spectrum-mass spectrometry/mass spectrometry".

Compared with SN/T 1737.5-2010, 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 1737.5-2010.

National standards for food safety Method for determination of herbicide residue Part 5.
Determination of thiosemicarbazones in food by liquid chromatography - mass spectrometry/mass spectrometry Acid herbicide residues

1 Scope

This standard specifies the determination of the residues of nine thiocarbamate pesticides (see Appendix A) for liquid chromatography-mass spectrometry law.

This standard applies to rice, soybeans, white radish, cabbage, broccoli, ginger, tea, peanuts, oranges, grapes, chicken, liver and fish in the nine kinds of thiocarbamate pesticide residues in the 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 residual thiocarbamate herbicide was extracted from acetonitrile and the extract was purified by HLB and Envi-Carb solid phase extraction column.

Phase chromatography - mass spectrometry detection and confirmation, internal 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 (CH₃CN, 75-05-8). Chromatographic Purification.

4.1.2

n-hexane (C₆H₁₄, 110-54-3).

4.1.3

Acetone (C₃H₆O, 67-64-1).

4.1.4

acetic acid (C₂H₄O₂, 64-19-7). chromatography pure.

4.1.5

Sodium chloride (NaCl, 7647-14-5).

4.2 Solution preparation

4.2.1

N-Hexane-Acetone Solution (7 3). Accurately measure 70 mL of n-hexane and 30 mL of acetone and shake well.

4.2.2

acetonitrile - water solution (1 1). accurate measurement of 50 mL of acetonitrile and 50 mL of water, shake back.

4.3 Standards

4.3.1

Reference material. see Appendix A, Table A.1, purity is greater than 99%.

4.3.2

Standard reference substance. D3- Carbaryl (100 µg/mL).

4.4 Standard solution preparation

4.4.1

Thiocarbamate Pesticide Standard Reserve Solution (100 µg/mL). Accurate weighing of various thiourethane standards Quality, with acetonitrile prepared into a concentration of 100 mg/L standard stock solution, protected from light -18 °C, the shelf life of 6 months.

4.4.2

Thiourethane Pesticide Mixed Standard Intermediate Solution (1.0 µg/mL). Draw each amount of standard stock solution, Release 1.0 mg/L mixed standard working solution, protected from light -18 °C, the shelf life of 1 month.

4.4.3

Internal standard solution (1.0 µg/mL). Accurately absorb the appropriate amount of standard material, with acetonitrile prepared into a concentration of 1.0 mg/L Internal standard working solution, light -18 °C preservation, shelf life of 1 month.

4.5 Materials

4.5.1

HLB solid phase extraction column or equivalent..200 mg, 6 mL. Use 5 mL of acetonitrile before treatment to keep the cylinder moist.

4.5.2

Envi-Carb solid phase extraction column or equivalent..200 mg, 3 mL. Wash with 5 mL n-hexane-acetone before use to keep the column wet Run.

4.5.3

Microporous membrane. 0.22 µm, organic phase type.

5 Instruments and equipment

5.1

Liquid Chromatography-Mass Spectrometer. Equipped with an electrospray ion source (ESI).

5.2

Analysis of balance. 0.1 mg and 0.01 g.

5.3

blowing nitrogen enrichment instrument.

5.4

Centrifuge. speed not less than 5 000 r/min.

5.5

homogenizer.

5.6

Vortex Mixer.