



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

GB 23200.38-2016

Replacing SN/T 3035-2011

**Food safety national standard -- Determination of Cyclohexenone
Herbicide Residue in Plant-derived Food by Liquid
Chromatography-Mass Spectrometry / Mass Spectrometry**

植物源性食品中环己烯酮类除草剂残留量的测定 液相色谱-质谱 质谱法

(English Translation)

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Foreword

This standard replaces SN/T 3035-2011 "Determination of Cyclohexenone Herbicide Residue in Exported Plant Foods by Liquid Chromatography-Mass Spectrometry / Tandem mass spectrometry".

Compared with SN/T 3035-2011, the main changes are as follows.

- Standard text format is modified to national standard text format for food safety;
- the name of the "export of plant-derived food" to "plant-derived food." - increase the "other

food reference implementation" in the standard range.

This standard replaced the previous version of the standard release.

-SN/T 3035-2011.

National standards for food safety Determination of Cyclohexanone Herbicide Residue in Plant - derived Food Liquid chromatography - mass spectrometry/mass spectrometry

1 Scope

This standard specifies rice, soybeans, corn, cabbage, potatoes, garlic, grapes and oranges, teprloxydim, Oxycodox, cycloxydim, methoxyphenone, sethoxydim and enx Determination of 6 Cyclohexanone Herbicides by Clethodim and Its Methods by Liquid Chromatography - Tandem Mass Spectrometry.

This standard applies to rice, soybeans, corn, cabbage, potatoes, garlic, grapes and oranges in the pyrazone, Thiadenone, phenoxalone, ene-pyridine and enoxurone six kinds of cyclohexene ketone herbicide residues in the detection 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 file. 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 cyclohexenone herbicides were extracted with acetonitrile, and the extracts were purified by C18 and Envi-Carb solid phase extraction column.

Spectrum - mass spectrometry/mass spectrometry detection 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 (CH₃CN). Chromatographically pure.

4.1.2

n-hexane (C₆H₁₄). pure chromatography.

4.1.3

acetic acid (CH₃COOH). pure chromatography.

4.1.4

Acetone (C₃H₆O). excellent grade pure.

4.1.5

Sodium chloride (NaCl).

4.2 Solution preparation

4.2.1

n-Hexane - Acetone (6 4). Take 60 mL of n-hexane, add 40 mL of acetone and mix well.

4.2.2

acetonitrile - water solution (1 1). measure 500 mL of acetonitrile, water volume to 1 L, mix.

4.2.3 0.1% acetic acid aqueous solution. take 1.0 mL of acetic acid, diluted with water and set to 1000 mL.

4.3 Standards

4.3.1

Reference substance. Pyrrione (CAS No. 79-41-9), Herbicide (CAS No. 565635-13-7), thiadenone (CAS No.

(CAS No. 87820-88-0), olefenil (CAS No. 74051-80-2) and oleokinone (CAS No.

99129-21-2), purity >=99% (see Appendix A, Appendix A.1 for chemical information).

4.4 Standard solution preparation

4.4.1

Cyclohexenone pesticide standard stock solution. respectively, accurately weighed the right amount of cyclohexanone pesticide standard substances, with acetonitrile preparation Concentration of 1000 mg/L standard stock solution, the standard solution to avoid preservation at -18 °C, the shelf life of 12 months.

4.4.2

Cyclohexenone Pesticide Mixed Intermediate Standard Solution. Absorb the appropriate amount of each standard stock solution and dilute with acetonitrile to a concentration of 1.0 mg/L of the mixed standard solution, 0 °C ~ 4 °C dark preservation, the shelf life of 3 months.

4.4.3

matrix mixed standard working solution. absorb the appropriate amount of mixed intermediate standard solution, with blank sample extraction solution concentration of 0µg/L, 10.0 µg/L, 20.0 µg/L, 50.0 µg/L, 100 µg/L and 200 µg/L, respectively. The day of preparation.

4.5 Materials

4.5.1

Graphitized Carbon Black Solid Phase Extraction Column. 3 mL 250 mg, or equivalent. Activated with 3 mL n-hexane-acetone solution before use the column is moist.

4.5.2

C18 solid phase extraction column. Activate with 5 mL acetonitrile before use to keep the column moist.

4.5.3

Microporous membrane. 0.22 µm, organic phase type.

5 Instruments and equipment

5.1

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

5.2

Analysis of balance. 0.01 g and 0.0001 g.

5.3

Tissue crusher.

5.4

pulverizer.

5.5

Scroll Mixer.