



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

GB 23200.56-2016

Replacing SN/T 2319-2009

**Food safety national standard -- Determination of Quinoxaline
Residue in Food**

食品中喹氧灵残留量的检测方法

(English Translation)

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Table of Contents

Foreword	
1 Scope	
2 Normative reference documents	
3 Principle	
4 Reagents and materials	
4.1 Reagents	
4.2 Solution preparation	
4.3 Standards	
4.4 Standard solution preparation	
4.5 Materials	
5 Instruments and equipment	
6 Preparation and storage of samples	
6.1 Preparation of the sample	
6.2 Sample storage	
7 Analysis steps	
7.1 Extraction	
7.2 Purification	
7.4 Determination by liquid chromatography - mass spectrometry/mass spectrometry	
7.4 Qualitative determination	
7.5 Blank experiment	
8 Results are calculated and expressed	
9 Precision	
10.1 Quantitation limits	
10.2 Recovery rate	

Foreword

This standard replaces SN/T 2319-2009 "Method for the detection of quinoxaline residues in food for import and export".

Compared with SN/T 2319-2012, 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 2319-2009.

National standards for food safety Determination of Quinoxaline Residue in Food

1 Scope

This standard specifies the method of liquid chromatography and liquid chromatography-mass spectrometry/mass spectrometry for the determination of quinoxaline residues in foodstuffs.

This standard applies to soybean, cauliflower, cherry, fungus, wine, tea, honey, liver, chicken, eel quinoxaline residues the amount of 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 quinoxaline in the sample was extracted with ethyl acetate or saturated sodium bicarbonate solution - ethyl acetate extraction, NH₂ solid phase extraction column or gel permeation chromatography combined with NH₂ solid phase extraction column purification, liquid chromatography or liquid chromatography-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

N-Hexane (C₆H₁₀). Chromatographic pure.

4.1.2

Ethyl acetate (C₄H₈O₂). Chromatographic purity.

4.1.3

Acetonitrile (CH₃CN). Chromatographic Purification.

4.1.4

Methanol (CH₃OH). Chromatographic Purification.

4.1.5

Cyclohexane (C₆H₁₂). Chromatographic pure.

4.1.6

Acetone (C₃H₆O). Chromatographic pure.

4.1.7

Sodium bicarbonate (NaHCO₃).

4.1.8

anhydrous sodium sulfate (Na₂SO₄). dried at 650 °C for 4 h before use, sealed and stored.

4.2 Solution preparation

4.2.1

Cyclohexane-ethyl acetate solution (1 1, V/V). 50 mL of cyclohexane and ethyl acetate were mixed and mixed.

4.2.2 5% acetone-n-hexane solution. Remove 5 mL of acetone in 95 mL n-hexane and mix well.

4.2.3 50% acetonitrile - water solution. 50 mL of acetonitrile and 50 mL of water were collected and mixed.

4.2.4

saturated sodium bicarbonate solution. Weigh a certain amount of sodium bicarbonate dissolved in aqueous solution to saturation.

4.3 Standards

4.3.1

Quinoxaline standard substance (English name Quinoxifen, molecular formula C₁₅H₈Cl₂FNO, CAS No.124495-18-7, molecular weight 308.14). purity ≥ 98%.

4.4 Standard solution preparation

4.4.1

Quinoxaline standard stock solution (100 mg/L). accurately weighed 0.0100 g quinoxaline standard substance, dissolved in methanol and volume to 100 mL, the standard stock solution at 4 °C can be stored for three months.

4.4.2

quinoxaline standard working solution. according to the need to take appropriate standard stock solution, 50% acetonitrile aqueous solution diluted to the appropriate concentration of standard workers for liquid. The standard stock solution can be stored at 4 ° C for one month.

4.5 Materials

4.5.1

Amino (NH₂) solid phase extraction column. 500 mg, 3 mL.

4.5.2

Filtration. 0.45 μm, 0.22 μm, organic.

5 Instruments and equipment

5.1

Liquid Chromatograph with UV or Diode Array Detector.

5.2

Liquid Chromatography-Mass Spectrometry/Mass Spectrometer, Distribution Spray (ESI) Source.

5.3

Analysis of balance. 0.01 g and 0.0001 g.

5.4

Gel Permeation Chromatography.

5.5

Centrifuge. 4 500 r/min with 100 mL stoppered plastic centrifuge tube.

5.6

pulverizer.