



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

GB 23200.122-2026

**National food safety standard-Determination of four pesticides
including glyphosate and their metabolites residues in foods of plant
origin?Liquid chromatography-tandem mass spectrometry method**

**食品安全国家标准 植物源性食品中草甘膦等4种农药及其代谢物残留量的测定 液
相色谱—质谱联用法**

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China, Ministry of Agriculture and Rural Affairs of the People's Republic
of China, Standardization Administration of the People's Republic of
China**

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Foreword

This document was issued on 12 February 2026 by the the National Health Commission of the People's Republic of China, Ministry of Agriculture and Rural Affairs of the People's Republic of China, Standardization Administration of the People's Republic of China and takes effect on 1 March 2026.

It is a GB standard without the /T suffix: compliance is mandatory in China.

The document runs to 15 pages in translation. The identification, the dates, the table of contents and the clauses reproduced on this page are taken from the standard itself.

GB 23200.122-2026 National food safety standard-Determination of four pesticides including glyphosate and their metabolites residues in foods of plant origin?Liquid chromatography-tandem mass spectrometry method English, Anglais, Englisch, Inglés, ???

National food safety standard-Determination of four pesticides including glyphosate and their metabolites residues in foods of plant origin - Liquid chromatography-tandem mass spectrometry method

National Food Safety Standard - Determination of residues of 4 pesticides including glyphosate and their metabolites in plant-derived foods - Liquid chromatography?mass spectrometry method

1 Scope

GB 23200.122 is the Chinese national food safety method for glyphosate and three other pesticides, together with their metabolites, in plant-derived foods, by liquid chromatography-mass spectrometry. Glyphosate is the most argued-about residue in the food trade, and it is also one of the hardest to measure: it is small, polar and does not

behave like the other pesticides a multi-residue screen catches, which is why it needs a method of its own. The document describes the extraction with water, the clean-up on a solid phase extraction column, the LC-MS determination and the quantification by matrix-matched standard curve, and it carries the reagents, the apparatus, the sample preparation, the analytical procedure, the calculation, the precision and the limit of quantification. It is a companion to GB 2763, which sets the limits this method is used to check. For a laboratory testing food for the Chinese market, this is the prescribed procedure.

This document specifies the liquid chromatography-mass spectrometry method for the determination of residues of 4 pesticides including glyphosate and their metabolites (see Annex A) in plant-derived foods.

This document applies to the determination of residues of 4 pesticides including glyphosate and their metabolites in plant-derived foods.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative reference. For dated references, only the edition cited applies. For undated references, the latest edition (including all amendments) applies.

GB 2763-2026 National Food Safety Standard - Maximum residue limits for pesticides in food

GB/T 6682 Water for analytical laboratory use - Specification and test methods

3 Principle

The test sample is extracted with water. The extract is purified by a solid phase extraction column, detected by liquid chromatography-mass spectrometry, and quantified by the external standard method.

4 Reagents and materials

Unless otherwise stated, only analytically pure reagents and Grade 1 water complying with GB/T 6682 shall be used in the analysis.

4.1 Reagents

4.1.1 Dichloromethane (CH_2Cl_2 , CAS No.: 75-09-2).

4.1.2 Ammonium bicarbonate (NH_4HCO_3 , CAS No.: 1066-33-7).

4.1.3 Ammonia solution ($\text{NH}_3\cdot\text{H}_2\text{O}$, CAS No.: 1336-21-6).

4.1.4 Acetic acid (CH_3COOH , CAS No.: 64-19-7).

4.2 Preparation of solutions

4.2.1 Acetic acid aqueous solution (0.1 mol/L): Pipette 0.57 mL of acetic acid, dilute to 100 mL with water, and mix well.

4.2.2 Acetonitrile aqueous solution (0.1 mmol/L): Pipette 1 mL of acetonitrile aqueous solution (4.2.1), dilute to 1 000 mL with water, and mix well.

4.2.3 Ammonia solution (0.05%): Pipette 0.5 mL of ammonia solution, dilute to 1 000 mL with water, and mix well.

4.2.4 Ammonium bicarbonate?ammonia solution (200 mmol/L): Weigh 15.81 g of ammonium bicarbonate, dilute to 1 000 mL with ammonia solution (4.2.3), and mix well.

4.3 Standards

The standards for the 4 pesticides and their metabolites are given in Annex A, with purity $\geq 95\%$.

4.4 Preparation of standard solutions

4.4.1 Standard stock solution (1 000 mg/L): Accurately weigh approximately 10 mg (accurate to 0.1 mg) of each pesticide standard, transfer to a volumetric flask, dilute to the mark with water, and shake well. Store in a storage vial (4.5.2) under light?protected conditions at a temperature below 18 °C. The validity period is 1 year.

4.4.2 Mixed standard intermediate solution (50 mg/L): Pipette 500 μ L of the pesticide standard stock solution (4.4.1) into a volumetric flask, dilute to 10 mL with water, and mix well. Store in a storage vial (4.5.2) under light?protected conditions at a temperature below 18 °C. The validity period is 6 months.

4.4.3 Mixed standard working solution (5 mg/L): Pipette 1 mL of the mixed standard intermediate solution (4.4.2) into a volumetric flask, dilute to 10 mL with water, and mix well. Store in a storage vial (4.5.2) under light?protected conditions at a temperature below 18 °C. The validity period is 1 month.