

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

SN/T 4671-2016

**Determination of glyphosate and its metabolite residue in
cotton for import and export--Liquid chromatography-tandem
mass spectrometry method**

进出口棉花中草甘膦及其代谢物残留量的测定液相色谱—质谱/质谱法
(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard is proposed and managed by the National Certification and Accreditation Administration.

This standard was drafted. Inspection and Quarantine Technology Center of Zhejiang Entry-Exit Inspection and Quarantine Bureau of the People's Republic of China, Zhejiang Province Entry-Exit Inspection and Quarantine Bureau Silk Testing Center.

1 Scope

This standard specifies the liquid chromatography-mass spectrometry/mass spectrometer for the residues of glyphosate and its metabolite aminomethylphosphonic acid pesticides in imported and exported cotton.

method.

This standard applies to the determination and confirmation of glyphosate and its metabolite aminomethylphosphonic acid in cotton.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 6682 analytical laboratory water specifications and test methods

3 Principle

The sample was extracted by water shaking, derivatized with fluorenylmethoxycarbonyl chloride (FMOC-Cl), and determined by liquid chromatography-mass spectrometry/mass spectrometry.

Quantitative.

4 Reagents and materials

Unless otherwise specified, the reagents used are chromatographically pure, and the water used is the first grade water in accordance with GB/T 6682.

4.1

Methanol.

4.2

Acetone.

4.3

Ammonium acetate.

4.4

Sodium borate. analytically pure.

4.5

methoxycarbonyl chloride (FMOC-Cl). purity is not less than 97.0%, less than 5 ° C preservation.

4.6

Ammonium acetate solution. 5 mmol/L, weigh 0.39 g of ammonium acetate (4.3), dissolve in water and dilute to 1000 mL.

4.7

Borate buffer solution. 5%, weigh 5g of sodium borate (4.4), dissolve in water and dilute to 100mL.

4.8

FMOC-Cl acetone solution. 20g/L, weigh 0.2g FMOC-Cl (4.5), dissolved in acetone and dilute to 10mL.

4.9

Reference material. glyphosate, CAS No. 1071-83-6, purity not less than 98%; aminomethylphosphonic acid, CAS number 1066-51-9, purity is not low 98%;

glyphosate-13C15N, 100 µg/mL; aminomethylphosphonic acid-13C15N, 100 µg/mL.

4.10

Standard stock solution. accurately weigh the appropriate amount of glyphosate and aminomethylphosphonic acid standard materials (accurate to 0.1mg), dissolve in water and determine the volume was prepared into a standard stock solution at a concentration of 100 µg/mL and stored at 4 °C.

4.11

Glyphosate and aminomethylphosphonic acid standard intermediate solution. accurately transfer appropriate amount of glyphosate and aminomethylphosphonic acid standard stock solution (4.10), diluted with water Release and constant volume, prepared into a mixed standard intermediate I with a concentration of 1.0 µg/mL, and stored at 4 ° C;

4.12

Internal standard intermediate solution. accurately transfer appropriate amount of glyphosate-13C15N and aminomethylphosphonic acid-13C15N standard substance (4.9), dilute with water and set the mixture was formulated into a mixed standard intermediate liquid II having a concentration of 1.0 µg/mL.

4.13

Standard working fluid. According to the need, remove certain mixed standard intermediates I and II, and prepare the concentration to 0.5µg/L with water.