

ICS 67.020
CCS C 53

SN

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

SN/T 1923-2007

**Determination of glyphosate residues in food for import and
export. HPLC-MS/MS method**

进出口食品中草甘膦残留量的检测方法 液相色谱-质谱/质谱法

(English Translation)

Issued on: May 23, 2007

Implemented on: December 1, 2007

Issued by: General Administration of Customs

Table of Contents

Foreword

1 Scope

2 Method summary

3 Reagents and materials

Foreword

Appendix A of this standard and Appendix B is an informative annex.

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

This standard was drafted. People's Republic of China Shanghai Entry-Exit Inspection and Quarantine Bureau, Heilongjiang People's Republic of China Entry-Exit Inspection and Quarantine Bureau, Jilin People's Republic of China Entry-Exit Inspection and Quarantine of Jiangsu People's Republic of China, People's Republic of China Liaoning Entry-Exit Inspection and Quarantine of Hebei People's Republic of China.

1 Scope

This standard specifies the glyphosate residues in food sample preparation and liquid chromatography - tandem mass spectrometry.

This standard applies to soybeans, wheat, rice, maize, sugar cane, Gan Cheng, basil, chestnuts, tea, shrimp, fish, poultry meat, honey, spices, ginseng Glyphosate (PMG) and its metabolite aminomethylphosphonic acid (AMPA) residues in the detection and confirmation.

2 Method summary

The sample was extracted with water, dried cation exchange column (CAX) purification, and 9-fluorenyl methyl chloroform [9-Fluorenylmethylchloro-After formate (FMOC-Cl)] derivatization reaction by liquid chromatography - mass spectrometry/mass spectrometry, internal standard.

3 Reagents and materials

Unless otherwise specified, the reagents were of analytical grade, ultra-pure water for the second.

3.1

methanol. liquid chromatography.

3.2

acetone. liquid chromatography.

3.3

dichloromethane. liquid chromatography.

3.4

hydrochloric acid.

3.5

potassium hydroxide.

3.6

potassium dihydrogen phosphate.

3.7

sodium borate ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$).

3.8

formic acid.

3.9

Anhydrous ammonium acetate.

3.10

acetonitrile. liquid chromatography.

3.11 20% potassium hydroxide solution. Weigh 20g of potassium hydroxide dissolved in an appropriate amount of water, and diluted with water to 100mL.

3.12 3mol/L hydrochloric acid solution /, 0.3mol/L hydrochloric acid solution. amount of 270mL of hydrochloric acid, add water and dilute to 1000mL, this solution Concentration of 3mol/L; diluted 10-fold with water is 0.3mol/L.

3.13

Mobile phase A. acetonitrile 0.1% formic acid, formic acid in 1000mL Pipette 1mL of acetonitrile and mix.

3.14

Mobile phase B. Weigh 0.154g of anhydrous ammonium acetate dissolved in an appropriate amount of water is added 1mL formic acid, water volume to 1000mL.

3.15

Acidity regulators. Weigh 16g molten potassium dihydrogen phosphate in 160mL of water and 40mL of methanol was added 13.4mL hydrochloric acid, and mix.

3.16

CAX eluent. amount of each 160mL water, 2.7mL hydrochloric acid and 40mL of methanol, and mix.

3.17 5% (volume fraction) borate buffer solution (pH = 9). Weigh 5g of sodium borate ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$), dissolved in water and given solution to 100mL.

3.18 9-fluorenyl methyl chloroform [FMOC-Cl]. purity of not less than 99.0%, less than 5 °C preservation.

3.19 1.0g/LFMOC-Cl acetone solution. Weigh 100mgFMOC-Cl, dissolved in acetone and is scheduled to dissolve 100mL.

3.20

glyphosate (PMG) standard substance (Glyphosate, CAS Number. 1071-83-6 suppliers. $\text{C}_3\text{H}_8\text{NO}_5\text{P}$). purity of not less than 98.0%.

3.21

aminomethylphosphonic acid (AMPA) standard substance (aminomethylphosphonicacid, CAS Number. 1066-51-9 Molecular Formula.

$\text{C}_1\text{H}_6\text{NO}_3\text{P}$). purity of not less than 98.0%.