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SN

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 0151-2016

Replacing SN 0151-1992

Determination of ethion residues in foodstuffs of plant origin for export

出口植物源食品中乙硫磷残留量的测定

(English Translation)

Issued on: August 23, 2016 **Implemented on: March 1, 2017**

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Foreword

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

This standard replaces SN 0151-1992 "Test Method for Ethyl Phosphorus Residues in Exported Fruits".

Compared with SN 0151-1992, the main technical changes except the editorial modification are as follows.

--- Modified standard sample preparation methods and gas chromatographic conditions.

--- Increased positive samples by gas chromatography mass spectrometry confirmation experiments.

--- Increased sample matrix.

--- Deleted the sampled content.

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

This standard was drafted. Anhui Entry-Exit Inspection and Quarantine Bureau of the People's Republic of China.

1 Scope

This standard specifies the gas chromatographic detection and gas chromatography-mass spectrometry confirmation method for the determination of ethion residues in foods exported from plants.

This standard applies to the detection of ethyl sulphate residues in rice, tomato, broccoli, soybean oil, peach, orange, strawberry, apple, tea and so on.

Confirmation.

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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 ethyl sulphate residue in the sample is extracted with acetonitrile, and the extract is purified by graphitization carbon black PSA composite solid phase extraction column, using gas chromatography.

The method (GC-FPD) was determined by gas chromatography-mass spectrometry (GC-MS) and quantified by external standard method.

4 Reagents and materials

All reagents were of analytical grade unless otherwise specified, and the water was secondary water specified in GB/T 6682.

4.1
Acetonitrile. chromatographic grade.

4.2
Acetone. chromatographic grade.

4.3
Ethyl acetate. chromatographic grade.

4.4
Hexane. Chromatographically pure.

4.5
Toluene. chromatographic grade.

4.6
Anhydrous magnesium sulfate. Stir at 650 ° C for 4 h, store in a sealed container after cooling to room temperature in a desiccator.

4.7
Sodium chloride. Bake at 140 ° C for 4 h, store in a sealed container after cooling to room

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temperature in a desiccator.

4.8
Acetonitrile-toluene (3 1, by volume). Measure 60 mL of acetonitrile (4.1), add 20 mL of toluene (4.5), and mix.

4.9
Ethionine standard. purity greater than 99%, CAS number. 563-12-2, molecular formula. C9H22O4P2S4.

4.10
Preparation of Ethyl Phosphate Standard Stock Solution. Accurately weigh the appropriate amount of ethion standard (accurate to 0.1mg), dissolve it with a small amount of acetone, and then A standard stock solution having a concentration of 100 mg/L was prepared with ethyl acetate and stored in a refrigerator (4 ° C).

4.11
Preparation of Ethyl Phosphate Standard Working Solution. According to the needs, use ethyl acetate to prepare a series of standard working solutions at the appropriate concentration before use.

4.12
ENVI-Carb/PSA Solid Phase Extraction Column 1). 500mg/500mg/6mL or equivalent.

1) Non-commercial statement. This is a reference for work convenience only, does not involve commercial purposes, and encourages standard users to try products from different manufacturers.

5 Instruments and equipment

5.1
Gas chromatograph with flame photometric detector (FPD).

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