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

SN 0533-1996

Replacing SN 0533-1996

**Method for the determination of ethoxyquin residue in fruits for
export**

(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 replaces SN 0287-1993 "Liquid Chromatography Method for the Examination of Ethoxyquin Residues in Export Fruits" and SN 0533-1996 "Examination method of ethoxyquinequinoxaline residues in export fruits", compared with SN 0287-1993, SN 0533-1996, except editorial modification the main technical changes outside are as follows.

- change the standard name;
- Using liquid chromatography-fluorescence detection and liquid chromatography-mass spectrometry/mass spectrometry, instead of the original fluorescence spectrophotometry and liquid chromatography-violet External detection method;
- Expand the applicable matrix of the detection range to apples, pears, peaches, plums, and citrus;
- Modified sample preparation method;
- Lowered method determination lower limit.

1 Scope

This standard specifies high performance liquid chromatography and liquid chromatography-mass spectrometry/mass spectrometry detection methods for the determination of ethoxyquin in export fruits.

This standard applies to the determination of ethoxyquin in exports of apples, pears, peaches, plums, and citrus.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. For undated references, the latest version (including all amendments) applies to this document.

GB/T 6682 Analysis Laboratory Water Specifications and Test Methods First method high performance liquid chromatography

3 Method summary

Samples were prepared using different methods for different fruits, and extracted with n-hexane as the solvent. After concentration and constant volume, high performance liquid chromatography-fluorescence was performed.

Method determination, external standard method.

4 Reagents and materials

Unless otherwise specified, the reagents used are all chromatographically pure and the water used is a grade one water according to GB/T 6682.

4.1

Acetonitrile.

4.2

Methanol.

4.3

Hexane.

4.4

Vitamin C. analytically pure.

4.5

Standard material. ethoxyquin, C₁₄H₁₉NO, CAS accession number 91-53-2, purity greater than 97.5%.

4.6

Standard stock solution. Accurately weigh the appropriate amount of standard substance (4.5), dissolve it with methanol and make it to volume, and prepare a solution with a concentration of 200 µg/mL.

The standard stock solution, 0 °C ~ 4 °C preservation, valid for 6 months.

4.7

Standard working solution. According to requirements, standard stock solution (4.6) is diluted with methanol to a standard working solution with appropriate concentration, 0°C~4°C save.

4.8

Microporous membrane. $\leq 0.45\mu\text{m}$, organic phase.

5 Instruments and Equipment

5.1

HPLC. equipped with a fluorescence detector.

5.2

Organize the masher.

5.3

Analytical balance. Sensitivity 0.0001g and 0.01g.

5.4

Vortex mixer.