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YC

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

YC/T 405.2-2011

**Tobacco and tobacco products. Determination of multi-pesticide
residues. Part 2: Determination of organochlorine and pyrethroids
pesticide residues. Gas chromatographic method**

(English Translation)

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Foreword

YC/T 405 "Determination of pesticide residues in tobacco and tobacco products" is divided into five parts.

- Part 1. High performance liquid chromatography - tandem mass spectrometry;
- Part 2. organochlorine and pyrethroid pesticide residues by gas chromatography;
- Part 3. Gas chromatography-mass spectrometry and gas chromatography;
- Part 4. Determination of dithiocarbamate pesticide residues by gas chromatography mass spectrometry;
- Part 5. maleic hydrazide pesticide residues by HPLC.

This section YC/T Part 2 405.

This section drafted in accordance with the rules of GB/T 1.1-2009 and GB/T 20001.4-2001 given.

Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents.

This part by the State Tobacco Monopoly Bureau.

This part of the National Technical Committee of Standardization Technical Committee on Tobacco Cigarette (SAC/TC144/SC1) centralized.

This section drafted by. China National Tobacco Corporation, Zhengzhou Tobacco Research Institute, National Tobacco Quality Supervision and Inspection Center, China Tobacco Standardization Research Center, Hongta Tobacco (Group) Co., Ltd., Hubei tobacco industry limited liability company.

1 Scope

YC/T of the provisions of section 405 of organochlorine and pyrethroid pesticide residues listed in Table A.1 A tobacco and tobacco products in the Appendix Allowance Gas Chromatography.

This section applies to tobacco and tobacco products in the tables set out in Appendix A A.1 Determination of organochlorine and pyrethroid pesticide residues.

The detection limit and the limit of quantification in Appendix B, Table B.1.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Laboratory use specifications and test methods GB/T 6682 Analysis Preparation and water YC/T 31 samples of tobacco and tobacco products - Determination oven method Principle 3 Samples crushed by n-hexane. ethyl acetate mixed solvent ultrasonic assisted extraction, and after solid phase extraction column purification, with the use of Electron capture detector (ECD) of the gas chromatograph to detect pesticide residues.

4 Reagents and materials

All reagents shall apply to pesticide residues analysis, and should be used with the sample measurement (extraction and gas chromatography) method to do the same Blank test to check its purity, should not affect the determination of pesticide residues on the baseline peak solvent blank chromatogram. Water should reach GB/T 6682 a water requirements.

4.1

n-hexane, pesticide grade.

4.2

Toluene, pesticide grade.

4.3

ethyl acetate, pesticide grade.

4.4

a mixed solvent, n-hexane. ethyl acetate, 1.1 (ratio by volume).

4.5

anhydrous sodium sulfate, AR. Before use should be burning 4h at 650 °C condition, stored in a dryer for use.

4.6

Flory silica (Florisil) Solid phase extraction column volume of 3mL, the amount of filler is 500mg.

4.7

Standard substance. Annex A substances listed in Table A.1, certified reference material purity $\geq 95\%$ (mass fraction).

4.8

standard solution (pesticide standard solutions should be stored in the dark at 0 °C ~ 4 °C conditions can be stable for at least 6 months).

4.8.1 Single standard stock solution (200 μ g/mL)

Weigh 0.02g of each pesticide standard substance (4.7), accurate to 0.0001g, placed in separate 100mL flask with n Hexane (4.1) diluted to volume. beta-HCH low solubility in n-hexane, toluene application (4.2) is dissolved.