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YC

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

YC/T 405.1-2011

Replacing YC/T 182-2004; YC/T 183-2004; YC/T 219-2007

**Tobacco and tobacco products. Determination of multi-pesticide
residues. Part 1: High performance liquid
chromatography-tandem mass spectrometry 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 1 405.

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

This Part replaces YC/T 182-2004 "Tobacco and tobacco products imidacloprid pesticide residues HPLC" YC/T 183-2004 "Tobacco and tobacco products aldicarb pesticide residues by gas chromatography", YC/T 219-2007 "Tobacco and tobacco methomyl pesticide residues by gas chromatography." 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 tobacco and tobacco products in Appendix A in Table A.1 listed 73 kinds of pesticide residues HPLC Chromatography - tandem mass spectrometry.

This section applies to A in Table A.1 listed 73 kinds of pesticide residues measured in the Appendix. 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 Add crushed sample to the amount of water, after shaking extraction using acetonitrile full infiltration, salting centrifugal stratification, supernatant after adsorbent After purification by high performance liquid chromatography - tandem mass spectrometer, internal standard.

4 Reagents and materials

All reagents shall apply to pesticide residues analysis, and should be used with the sample measurement (extraction and high performance liquid chromatography - tandem mass spectrometry) Blank test in the same manner to check its purity, the baseline should be no solvent blank chromatogram impact of pesticide residues measured peak.

Water should reach GB/T 6682 requested a water.

4.1

acetonitrile, pesticide grade.

4.2

methanol, pesticide grade.

4.3

anhydrous magnesium sulfate, AR. Before use should be burning 4h at 650 °C, stored in a desiccator.

4.4

Sodium chloride, analytical grade.

4.5

sodium citrate, AR.

4.6

citric acid, disodium hydrogen phosphate, AR.

4.7

N- secondary amine bonded solid phase adsorbents, namely PSA adsorbent (primarysecondaryamine).

4.8

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

4.9

EPTC, as an internal standard substance, purity $\geq 95\%$ (mass fraction).

NOTE: EPTC is Chinese common name, the chemical name N, N- dipropyl dithiocarbamate -S-ethyl ester, S-ethyldipropyl the IUPAC name (Thiocarbamate), English common name EPTC.

4.10

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).