

ICS 65.160
CCS X 87

YC

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

YC/T 247-2008

**Tobacco and tobacco products. Determination of nicotine
purity. Gravimetric method using tungstosilicic acid
(English Translation)**

Issued on: April 14, 2008

Implemented on: April 14, 2008

Issued by: State Tobacco Monopoly Administration

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Foreword

This standard is identical with ISO 13276:1997 "Tobacco and tobacco products - Determination of nicotine purity silicon acid gravimetric method" (in English).

For ease of use, for ISO 13276:1997 This standard made the following editorial changes.

--- Delete ISO 13276:1997 Foreword;

--- Delete ISO 13276:1997 references;

--- Increase in Appendix A "repeatability and reproducibility of test data." Appendix A of this standard is an informative annex.

This standard was proposed by the State Tobacco Monopoly Bureau.

This standard by the National Standardization Technical Committee on Tobacco (TC144) centralized.

This standard drafting units. China Tobacco Standardization Research Center.

1 Scope

This standard specifies the method for determination of silicon by weight nicotinic acid purity.

This standard applies to tobacco and tobacco products and nicotine content in flue gas measurement when used nicotine or nicotine calibration analysis method used Determination of the purity of salt.

Principle 2

Nicotine or nicotinic acid salt to react with silicon to form insoluble nicotine silicon tungstate. With sintered glass filter crucible was dried by heating or mining After calcination ashless filter paper manner, the mass of the precipitate, calculated purity nicotine or nicotine salt.

3 Reagents and materials

Use analytical grade reagents and water should be distilled water or water of equivalent purity.

3.1

silicotungstic acid solution, $12\text{gSiO}_2 \cdot 12\text{WO}_3 \cdot 26\text{H}_2\text{O}$ dissolved in 100mL of water.

Note: Avoid using other silicon acid molecular structure, such as $4\text{H}_2\text{O} \cdot \text{SiO}_2 \cdot 10\text{WO}_3 \cdot 3\text{H}_2\text{O}$ and $4\text{H}_2\text{O} \cdot \text{SiO}_2 \cdot 12\text{WO}_3 \cdot 20\text{H}_2\text{O}$, because these Crystalline silicon can not generate acid precipitation and nicotine response.

3.2

hydrochloric acid solution A, 20% (volume fraction), diluted with distilled water 20mL hydrochloric acid ($\rho_{20} = 1.18\text{g/mL}$) to 100mL.

3.3

hydrochloric acid solution B, 0.1% (volume fraction) and distilled water 5mL dilute hydrochloric acid solution A (3.2) to 1000mL.

3.4

nicotine solution, $\rho_{20}(\text{C}_{10}\text{H}_{14}\text{N}_2) = 0.1\text{mg/mL}$, 2.5mg nicotine is dissolved in distilled water 25mL volumetric flask (4.1), and and to volume.

4 Instrument

Common laboratory apparatus and the following items.

4.1

flask.

4.2

beaker, 250mL.

4.3

surface plate.

4.4

glass rod.

4.5

dryer, containing an effective desiccant.

4.6

sintered glass crucible filtration device.

4.6.1

sintered glass crucible, a pore size of $40\mu\text{m} \sim 100\mu\text{m}$.

4.6.2

Buchner filtration bottles.

4.6.3

Vacuum Pump.

4.6.4

oven, the temperature can be controlled at $(120 \pm 5) ^\circ\text{C}$.

4.7 Means a filter paper

4.7.1

ash-free filter paper.

4.7.2

crucible, porcelain or platinum.

4.7.3

Bunsen burner, the temperature control should be higher than $600 ^\circ\text{C}$.

4.7.4

muffle furnace, the temperature control should be higher than $600 ^\circ\text{C}$.

4.8 Analytical balance, accurate to 0.1mg.

YC/T 247-2008/ISO 13276:1997