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

GB/T 23355-2009

**Cigarettes -- Determination of nicotine in smoke condensates --
Gas-chromatographic method**

卷烟 总粒相物中烟碱的测定 气相色谱法

(English Translation)

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Foreword

This revised standard adopts ISO 10315:2000 "nicotine cigarette smoke condensate by gas chromatography" (in English).

This standard is based on ISO 10315:2000 redrafted.

Taking into account the situation of our country, the present standard and ISO 10315:2000 the presence of a small amount of technical differences compared to the relevant technical differences have been incorporated into positive the paper and the terms they covered the margin identified by a single vertical line. It is given in Appendix B of these technical differences and their reasons List for reference.

For ease of use, this standard ISO 10315:2000 made the following editorial changes.

- Remove ISO 10315:2000 Foreword;
- Remove ISO 10315:2000 Introduction;
- Remove ISO 10315:2000 references;
- Increase in Appendix B "of the present method and ISO 10315:2000 of control." the Standard Appendix A, Appendix B is an informative annex.

This standard was proposed by the State Tobacco Monopoly Bureau.

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

This standard was drafted. National Tobacco Quality Supervision and Inspection Center.

1 Scope

This standard specifies the gas chromatographic determination of total particulate matter of cigarette smoke nicotine. Cigarette mainstream smoke suction and collection by GB/T 19609 performed.

This standard applies to the determination of the standard and non-standard suction

obtained cigarette smoke total particulate matter to nicotine.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 19609 cigarettes by conventional analytical determination of total particulate matter and tar (GB/T 19609-2004 smoking machine, ISO 4387.

2000, MOD)

GB/T 23225 Tobacco and tobacco products spectrophotometric determination of total alkaloids (GB/T 23225-2008, ISO 2881:1992, MOD) Principle 3 the mainstream smoke total particulate matter dissolved in the extraction solvent containing the internal standard, the nicotine content of the extract was measured by gas chromatography, calculation the total particulate matter in nicotine content.

4 Reagents

Use analytical grade reagents.

4.1

Carrier gas. high purity nitrogen or helium.

4.2

Assist gas. the flame ionization detector required air and high purity hydrogen.

4.3

isopropanol. water content not higher than 1.0mg/mL.

4.4

Internal standard. n-heptadecane or QUINALDINIC ($\geq 99\%$).

In purity was determined to meet the requirements and do not smoke while eluting with the other components of the case, carvone, n-octadecane, or other substances may also be Used as internal standard. Each sample should be monitored when the measured peak area of the internal standard remain unchanged, if the change should be used without the internal standard samples extracted Was taken to verify, confirm sample liquid component not including the peak elution position of standard substance (see Chapter 9).

Containing the appropriate concentration of isopropanol in the standard (4.4) of (4.3),

generally 0.2mg/mL ~ 0.5mg/mL. 4.5 extraction agent. If the extraction agent no temperature control during storage prior to use should be balanced to $(22 \pm 2) ^\circ\text{C}$.

4.6

Standard substance. according to GB/T 23225 verification of known purity nicotine, at $0 ^\circ\text{C} \sim 4 ^\circ\text{C}$ stored. It may also be used in accordance with the GB/T 23225 verification of known purity nicotine salicylate salts.

4.7

Standard solution. nicotine standard substance (4.6) dissolved in extracting agent (4.5), the standard solution was prepared at least 4, at a concentration range should cover Cover anticipated detected in a sample of nicotine concentration (generally 0.02mg/mL ~ 2.0mg/mL). Standard solution should be avoided at $0 ^\circ\text{C} \sim 4 ^\circ\text{C}$ Light save.

Cryopreservation extractant solution before use and should be equilibrated to $(22 \pm 2) ^\circ\text{C}$.