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

YC/T 648-2026

**Tobacco and tobacco products - Determination of lignin
(English Translation)**

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting is scheduled.

Please note that some content in this document may involve patents. This document is published.

The organization is not responsible for identifying patents.

This document was proposed by the State Tobacco Monopoly Administration.

This document is under the jurisdiction of the Cigarette Subcommittee of the National Tobacco Standardization Technical Committee (SAC/TC 144/SC 1).

1 Scope

This document describes the ultraviolet spectrophotometric method for determining acid-soluble lignin in tobacco and tobacco products, and the weight determination method for acid-insoluble lignin.

This document applies to the determination of lignin content in tobacco and tobacco products.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

YC/T 31 Preparation of Tobacco and Tobacco Product Samples and Determination of Moisture Content by Oven Drying Method

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4 Principles

The sample was sequentially treated with 80% ethanol-saturated sodium chloride solution to remove pigments and 90% dimethyl sulfoxide-water solution to remove proteins and other interferences.

Then, 72% sulfuric acid solution was added for depolymerization, followed by dilution with water, high-temperature acid hydrolysis, and separation by vacuum filtration. The filtrate and filter residue were collected. The filtrate was analyzed by ultraviolet spectrophotometry.

Acid-soluble lignin was determined by a method, and acid-insoluble lignin was determined by a gravimetric method after the filter residue was dried and ashed.

5 Reagents

Unless otherwise specified, reagents of analytical grade or higher should be used.

5.1

Water, with a resistivity of not less than 18.0 Mohm·cm.

5.2

Lignin, with a purity of not less than 99%.

5.3

Anhydrous ethanol.

5.5

Dimethyl sulfoxide.

5.6

Sodium chloride.

5.7 80% ethanol-saturated sodium chloride aqueous solution. Weigh 64 g of sodium chloride (5.6) into a 1000 mL beaker and add 200 mL of water to dissolve.

Then add 800 mL of anhydrous ethanol (5.3), mix well, cover and let stand for later use.

5.8 90% Dimethyl Sulfoxide-Aqueous Solution. Transfer 900 mL of dimethyl sulfoxide (5.5)

into a 1000 mL volumetric flask and dilute to volume with water.

5.9 72% sulfuric acid solution. Transfer 217 mL of water to a 1000 mL beaker, and slowly add 326 mL of 98% concentrated sulfuric acid (5.4) along the beaker wall.

Simultaneously stir and cool.

5.10 0.12% Sulfuric Acid Diluent. First, add a certain volume of water to a 1000 mL volumetric flask, then slowly add 1.6 mL of 72% sulfuric acid solution.

Liquid (5.9), diluted to volume with water.

5.11

Acid-soluble lignin standard solution.