

ICS 59.080.01

CCS W 04



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

GB/T 2910.15-2009

**Textiles -- Quantitative chemical analysis -- Part 15: Mixtures of
jute and certain animal fibers (method by determining nitrogen
content)**

(English Translation)

Issued on: June 15, 2009

Implemented on: January 1, 2010

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of PRC. Standardization Administratio**

Table of Contents

Foreword...	3
1 Scope...	6
2 Normative references...	6
3 Principles...	6
4 Reagents...	6
5 Equipment...	7
6 Sampling and laboratory sample pretreatment...	7
7 Test steps...	8
8 Calculation and presentation of results...	9
9 Precision...	9

1 Scope

This Part of GB/T 2910 specifies the method for determining the content of each component in a binary mixture of jute and certain animal fibers, by the nitrogen content method after removal of non-fibrous substances. Among them, the animal fiber can be a kind of wool or other animal fibers, OR the mixture of both.

This Part does not apply to blended products containing nitrogen in dyes or finishes.

Note: Since the principle of this method is different from the principle of selective dissolution in other parts, the format is different from other parts of GB/T 2910.

2 Normative references

The provisions in following documents become the provisions of this Part through reference in this Part of GB/T 2910. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Part; however, parties who reach an agreement based on this Part are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 2910.1 Textiles - Quantitative chemical analysis - Part 1: General principles of testing (GB/T 2910.1-2009, ISO 1833-1:2006, IDT)

3 Principles

By measuring the nitrogen content of the mixture AND knowing the theoretical nitrogen content of two single components, the mass fraction of each component is calculated.

4 Reagents

All reagents used are of analytical grade.

specimen). Reflux for 30 min. Take out the sample. Filter it. Put the sample back into the conical flask. Use water to repeat extraction. Filter it. Carry out squeezing, suction or centrifugal dehydration. Dry it in the air.

Warning: Toluene and methanol will cause harm to the human body, so comprehensive protection measures shall be taken when using them.

7 Test steps

Regarding sampling, drying, weighing, follow the provisions of GB/T 2910.1. Then operate as follows.

Take about 1 g of the pretreated specimen. Dry it in a weighing bottle. Cool it in a desiccator. Weigh it. Transfer the specimen into a dry Kjeldahl decomposition flask.

Weigh the weighing bottle again immediately. Use the difference, to obtain the dry mass of the specimen.

Put the following reagents into the Kjeldahl decomposition flask, which contains the specimen, in turn: 2.5 g of potassium sulfate (4.4), 0.1 g ~ 0.2 g of selenium dioxide (4.5), 10 mL of sulfuric acid solution (4.3). Slowly heat the flask at low heat. After all the fibers are destroyed, heat vigorously again, until the solution becomes clear and almost colorless. Continue heating for 15 min. Cool the flask. Carefully add 10 mL ~

20 mL of water. Cool it. Transfer all the solution into a 200 mL graduated flask. Add water to dilute to the mark, to form a digestive solution.

In a 100 mL conical flask, add 20 mL of boric acid solution. Place it under the condenser of the Kjeldahl distillation equipment. Insert the receiving tube under the boric acid liquid surface. Accurately pipette 10 mL of the digestive solution into the distillation flask. Take more than 5 mL of sodium hydroxide solution into the separatory funnel.

Gently open the stopper, so that the solution slowly flows into the distillation flask. If the digestion solution and sodium hydroxide solution separate into two layers, shake gently to mix well. Warm the distillation flask gently. Lead in the steam from a steam generator.

After collecting about 20 mL of distillate. Lower the receiving bottle, so that the lower end of the condenser tube is 20 mm away from the liquid surface. Then distill for 1 min.

Use water to rinse the end of the tube. Make the eluent flow into the receiving bottle.

Remove the receiving bottle. Put the second receiving bottle, which contains 10 mL boric acid solution, in place. Collect about 10 mL of distillate.

Use sulfuric acid (4.9) and the mixed indicator (4.7), to titrate the two distillates, respectively. Record the total amount of the titrant. If the titer of the second distillation flask exceeds 0.2 mL, discard this result. Then take a new digestate and re-distill.

At the same time, do a blank test. Only draw reagents when digesting and distilling.

.....