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

GB/T 22427.10-2008

Replacing GB/T 12091-1989

**Starches and derived products -- Determination of nitrogen
content**

淀粉及其衍生物氮含量测定

(English Translation)

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Foreword

This standard is identical with ISO 3188. 1978 "starch and its derivatives Nitrogen Determination Kjeldahl titration" (in English), the contents of and structure of ISO 3188. 1978 is consistent, only made editorial changes.

This standard replaces GB/T 12091-1989 "starch and derivatives of nitrogen determination method." this standard and GB/T 12091-1989 compared to major changes are as follows.

--- Standard name changed to "determination of nitrogen content of starch and its derivatives";

--- This standard canceled the spectrophotometer to Kjeldahl titration method for the determination;

--- Improve the standard format, according to the International System of Units standardized units;

--- Footnote omitted;

--- 6.3 by deleting the text of "any mention in ISO 1871 is adapted to control the measurement equipment can be used";

--- Added "9 test report." this standard is proposed and managed by China General Chamber of Commerce.

This standard was drafted. Chinese Chamber of Commerce Business Standard centers, food, Jiangnan University, China Starch Industry Association modified starch Professional Committee, Roquette (China) Fine Chemicals Co., Ltd. Beihai Hong Quan starch, Suzhou peak of Fine Chemical Co., Division Yunnan Runkai Starch Company.

1 Scope

This standard specifies the method for determining the Kjeldahl titration starch and its derivatives nitrogen content.

This standard applies to the nitrogen content (mass fraction) sample is greater than the starch and its derivatives 0.01%.

Note: you have not added starch and its derivatives nitrogenous substances, nitrogen is a basic protein (or) in the form of amino acid and presence.

Note: If the product nitrogen content (mass fraction) measured less than 0.025%, press the ISO 5378 method of measurement.

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.

Nitrogen content was determined by spectrophotometry ISO 5378 starch and its derivatives Kjeldahl method

3 Terms and Definitions

The following terms and definitions apply to this standard.

Nitrogen content obtained by the method according to the present standard. Samples include starch and derivatives of free amino acids, amino acid hydrolysis Nitrogen content of the compound and ammonium compounds, but does not include nitrate and nitrate nitrogen contained.

Principle 4

In the catalyst, sulfuric acid digestion of starch and its derivatives, sodium hydroxide alkaline reactant, and distillation of ammonia released simultaneously with After absorption of boric acid solution with a calibrated standard solution of sulfuric acid titration.

5 Reagents

Use analytical grade reagents and distilled water or equivalent purity.

5.1

of concentrated sulfuric acid. 96% (mass fraction), $\rho_{20} = 1.84\text{g/mL}$.

5.2

Sodium hydroxide solution. Ba = 30% (mass fraction), $\rho_{20} = 1.33\text{g/mL}$.

Note: The concentration may be greater than 1.33g/mL .

5.3

Boric acid solution. Ba = 20g/L .

5.4

mixed catalyst. anhydrous copper sulfate and potassium sulfate from the mixture according to different proportions, as indicated by 97g and 3g of anhydrous potassium sulfate Copper.

5.5

Standard Solution. Ba = 0.01mol/L or 0.05mol/L .

5.6

indicator. methyl red by the two neutral cold saturated solution with a concentration of 0.25g/L of methylene blue solution mixed, stored in brown Color glass bottles. Methyl red neutral cold saturated solution and 0.25g/L methylene blue solution by 50% (volume fraction) ethanol formulation.

6 Instruments

6.1

Kjeldahl flask. capacity between $500\text{mL} \sim 800\text{mL}$, bottlenecks can place a small funnel.

6.2

digest frame. make Kjeldahl flask was heated in an inclined position, and only the sidewall heat below the liquid surface.

GB/T 22427.10-2008/ISO 3188. 1978