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

GB/T 22427.13-2008

Replacing GB/T 12094-1989

**Starch and derived products -- Determination of sulfur dioxide
content**

淀粉及其衍生物二氧化硫含量的测定

(English Translation)

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Foreword

This standard is identical with ISO 5379. 1983 "Determination of sulfur dioxide content of starch and its derivatives acidity and turbidity method Law" (English Edition), its content and structure of ISO 5379. 1983 is consistent, only made editorial changes.

This standard replaces GB/T 12094-1989 "starch and derivatives sulfur dioxide content determination." this standard and GB/T 12094-1989 compared to major changes are as follows.

- Standard name changed to "the determination of starch and its derivatives of sulfur dioxide content";
- Increased detection methods. turbidity method as a method for determination of sulfur dioxide content writing standards;
- Improve the standard format, according to the International System of Units standardized units;
- Added "6 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.

1 Scope

This standard specifies the determination of sulfur dioxide content of starch and its derivatives acidity and turbidity method.

This standard applies to the determination of sulfur dioxide content of starch and its derivatives. Acidity method is suitable for sulfur content higher than 16mg/kg Sample turbidity method is suitable for the sulfur dioxide content of less than 16mg/kg of the

sample.

Principle 2

The samples were acidified and heated to release sulfur dioxide, and nitrogen flow through with a dilute solution of hydrogen peroxide and oxidized to sulfuric acid is absorbed by Sodium hydroxide solution was titrated.

3.1 Reagents

It should be used not contain sulfate analytical reagent and distilled water, distilled water and boiled new soon.

3.1.1. Nitrogen. oxygen-free.

3.1.2

Hydrogen peroxide solution. 30mL mass fraction of 30% hydrogen peroxide, pour 1000mL volumetric flask, add water to the mark.

Concentration approximately 9g/L ~ 10g/L. Now with the current.

3.1.3

hydrochloric acid solution. set 150mL of concentrated hydrochloric acid ($\rho_{20} = 1.19\text{g/mL}$) in 1000mL volumetric flask, add water to volume scale.

3.1.4

bromophenol blue indicator solution. 100mg bromophenol blue dissolved in 100mL concentration of 20% (volume fraction) ethanol solution.

3.1.5

Tashiro (Tashiro) indicator. the 30mg and 50mg of methyl red methylene blue is dissolved in 90% 120mL (volume Fraction) ethanol, diluted with water to 200mL, and mix.

NOTE: Tashiro (Tashiro) indicator (3.1.5) only in the determination of acidity method (3.3.4) use. Bromophenol blue indicator (3.1.4) for the determination of acidity law While not affecting the turbidity method of measurement (Chapter 4).

3.1.6

standard sodium hydroxide solution. $Ba = 0.1\text{mol/L}$.

3.1.7

standard sodium hydroxide solution. $Ba = 0.01\text{mol/L}$.

Note 1: 3.1.6 and 3.1.7 solution should be formulated using water containing no carbon dioxide, the water can be cooled by water from a stream of nitrogen obtained after boiling.

Note 2: The recommended solution is suitable for small volume experiments, if desired, to increase

the amount of sample.

3.1.8

iodine standard solution. Ba = 0.01mol/L.

3.1.9

Starch indicator. Ba = 5g/L. 0.5g of soluble starch was dissolved in 100mL of water and heated with stirring to boiling, then add 20g of sodium chloride, stirring until completely dissolved, cool to room temperature before use.

3.1.10

potassium metabisulfite and disodium edetate mixed solution. 0.87g potassium metabisulfite ($K_2S_2O_5$) and 0.20g ethylenediamine Disodium (Na_2H_2EDTA) dissolved in water and quantitatively transferred to a 1000mL volumetric flask, add water to the mark, mix thoroughly.

3.2 Instrument

At the ground joint glassware to match.

3.2.1

conical flask. 100mL.

3.2.2

flask. 1000mL.

3.2.3

straw. 0.1mL, 1mL, 2mL, 3mL, 5mL and 20mL.

3.2.4

Semi-Micro burettes. 10mL.

3.2.5

Buret. 25mL and 50mL.

3.2.6

Analytical Balance.

GB/T 22427.13-2008/ISO 5379. 1983