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

GB/T 22428.2-2008

Replacing GB/T 12100-1989

Starch hydrolysis products -- Determination of water content

淀粉水解产品含水量测定

(English Translation)

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Foreword

This standard is identical with ISO 5381. 1983 "starch hydrolysis products Determination of moisture modified Karl Fischer method" (in English), within Content and structure of ISO 5381. 1983 is consistent, only made editorial changes.

This standard replaces GB/T 12100-1989 "Determination of moisture content of starch hydrolysis products." this standard and GB/T 12100-1989 compared to major changes are as follows.

- Standard name changed to "starch hydrolysis product moisture content determination";
- Improve the standard format, the standard specification of SI units;
- Added "8 Experiment Report";
- Added "Appendix A (informative) syringe";
- Added "Appendix B (informative) illustrates Karl Fischer instruments." the Standard Appendix A, Appendix B is an informative annex.

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 method improved Karl Fischer (KarlFischer) method for the determination of water content of starch hydrolyzate.

This standard applies to starch hydrolysis products.

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.

ISO 760 Karl Fischer water determination (KarlFischer) method Principle 3 with a steady Karl Fischer reagent of pre-dispersed in methanol - water content of formamide in the sample mixture.

4 Scheme

$\text{H}_2\text{O} + \text{I}_2 + \text{SO}_2 + 3\text{C}_5\text{H}_5\text{N} \rightarrow 2\text{C}_5\text{H}_5\text{N} \cdot \text{HI} + \text{C}_5\text{H}_5\text{N} \cdot \text{SO}_3$
 $\text{C}_5\text{H}_5\text{N} \cdot \text{SO}_3 + \text{ROH} \rightarrow \text{C}_5\text{H}_5\text{NH} \cdot \text{OSO}_2\text{OR}$ Note. R is 2-methoxyethyl root.

5 Reagents

Use analytical grade reagents and distilled water or equivalent purity water and all the water content of the solvent content must be below 0.1%.

5.1

stable Karl Fischer reagents. commercially available.

5.2

Methanol - formamide solvent. a mixture of 700mL of anhydrous methanol and 300mL of anhydrous formamide together.

5.3

sodium tartrate. $\text{Na}_2\text{C}_4\text{H}_4\text{O}_6 \cdot 2\text{H}_2\text{O}$ crystals.

You can purchase marked "Closed for Karl Fischer method" of this reagent. It can also be self-prepared. with 10mL of methanol - formamide solvent (4.2) Washed with sodium tartrate, and for an appropriate blank determination.

Pulverized sodium tartrate, it can all through 250 μm sieve. The water content of the mass fraction of about 15.66 percent, with 150 °C true Air dried to constant weight.

6 Instruments

6.1

Pipette. 20mL and appropriate volume.

6.2

plug weighing tube. the diameter of the tube suitable for weighing the composition of solid samples.

6.3

Syringe. 10mL. See Appendix A.

6.4

pipette. Volume appropriate.

6.5

Karl Fischer titrator or similar device. See Appendix B.

6.6

Analytical balance.

7 Operation

Prepare 7.1 Instrument the reagents should be calibrated before use, as required titrator card installation.

GB/T 22428.2-2008/ISO 5381. 1983