

ICS 67.180.20
CCS X11



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

GB/T 22427.7-2023

Replacing GB/T 22427.7-2008

Determination of starch viscosity

淀粉黏度测定

Issued on: August 6, 2023

Implemented on: March 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

Table of Contents

- 1 Scope
- 2 Normative reference documents
- 3 Terms and definitions

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document stipulates technical requirements related to food quality. Food safety-related requirements can be found in relevant laws, regulations, policies and food safety standards. document. This document replaces GB/T 22427.7-2008 "Starch Viscosity Determination". Compared with GB/T 22427.7-2008, except for structural adjustment and compilation In addition to editorial changes, the main technical changes are as follows:

a) The scope of application of the standard has been changed (see Chapter 1, Chapter 1 of the.2008 edition);

b) Added "paste formation temperature", "Brabender peak viscosity", "Brabender heating end viscosity" and "Brabender cooling starting point viscosity" "Brabender cooling end viscosity", "Brabender viscosity drop value", "Brabender viscosity regeneration value" and "RVA peak viscosity" "RVA valley viscosity", "RVA final viscosity", "RVA viscosity drop value" and "RVA viscosity recovery value" 12 terms (see 3.1~3.12); deleted the term "starch viscosity" (see

2.1 of the.2008 edition);

c) Changed the test method of samples in the rotational viscometer method (see 5.4.1, 3.3.1,

3.3.2 of the.2008 edition);

d) Delete "plotting" in the rotational viscometer method (see

3.3.4 of the.2008 edition);

e) Changed the rotational viscometer test temperature in the rotational viscometer method (see 5.4.1.1, 5.4.3.1,

3.3.3 of the.2008 edition);

f) Added the "modified starch that swells completely with cold water into paste" sample slurrying and "the transformation that swells with cold water into paste" in the rotational viscometer method. Determination method of "starch" (see 5.4.1.2, 5.4.3.2);

g) Added the rapid viscometer (RVA) method (see Chapter 6). Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed by the China Chamber of Commerce. This document is under the jurisdiction of the National Edible Starch and Starch Derivatives Standardization Technical Committee (SAC/TC552). This document was drafted by: Jiangnan University, Hangzhou Zhiyou Technology Co., Ltd., Hangzhou Proxing Starch Co., Ltd., Roquette (China) Nutrition Food Co., Ltd., Henan Feitian Biotechnology Co., Ltd., China Chamber of Commerce. The main drafters of this document. Gu Zhengbiao, Hong Yan, Zheng Liping, Wen Xing, Wang Zilong, Dong Deping, Cheng Li, Ban Xiaofeng, Sun Shenglin, Li Zhaofeng, Li Caiming, Lu Zhen. The previous versions of this document and the documents it replaces are as follows:

---First published as GB/T 12098-1989 in 1989, first revised in 2008;

1 Scope

GB/T 22427.7-2023 is the Chinese national standard on determination of starch viscosity, in the field of food technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 6 August 2023 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 2024. Classification: ICS 67.180.20, CCS X11. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document describes methods for the determination of starch viscosity using rotational viscometers, Brabender viscometers and rapid viscoanalyzers (RVA). This document applies to native starch and modified starch.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 6682 Specifications and test methods for water used in analytical laboratories

GB/T 12104 Terminology for starch and its derivatives

3 Terms and definitions

The terms and definitions defined in GB/T 12104 and the following apply to this document.

3.1 Pasting temperature pastingtemperature Use Brabender viscometer and rapid viscometer (RVA) to determine the corresponding viscosity of starch milk when the viscosity begins to increase during the gelatinization process. temperature.

3.2 The highest viscosity value reached by the starch milk during the gelatinization process was measured using a Brabender viscometer.

3.3 Use a Brabender viscometer to measure the viscosity value of starch milk when it is heated to the set maximum temperature during the gelatinization process.

3.4 A Brabender viscometer was used to measure the viscosity value of the starch milk at the end of the gelatinization process when it was heated to the set maximum temperature.

3.5 Use a Brabender viscometer to measure the viscosity of the starch milk when it is cooled to the set minimum temperature after gelatinization.

3.6 The difference between the Brabender peak viscosity and the Brabender cooling starting viscosity.

3.7 The difference between the viscosity at the end of Brabender cooling and the viscosity at the starting point of Brabender cooling.