

CCS X04



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

GB/T 16285-2008

Replacing GB/T 16285-1996

**Determination of glucose in food - Enzyme - Colorimetric method
and enzyme - Electrode method**

食品中葡萄糖的测定 酶-比色法和酶-电极法

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Foreword

This standard replaces GB/T 16285-1996 "Determination of food enzyme glucose - colorimetric method and enzyme - electrode method." This standard and GB/T 16285-1996 compared to the main changes are as follows:

- Standard name changed to. Determination of glucose in food enzyme - colorimetric method and enzyme - electrode method;
- According to the provisions of GB/T 1.1-2000 and GB/T 20001.4-2001 and modify the text format. The standard enzyme - colorimetric method of arbitration; Enzymes - Electrode for quick method. This standard Annex A, Annex B normative appendix. This standard by the National Standardization Technical Committee of Food Industry and focal points. This standard was drafted. China State Farms Northern Foods Monitoring Center (Enzyme - colorimetric method), Institute of Biology, Shandong Academy of Sciences (enzyme - electric Pole method). The main drafters. Zhang City, Liu Ning, Feng Derong, Sun Shiqing, Song Jiahua. This standard replaces the standards previously issued as follows:
- GB/T 16285-1996. Determination of glucose Enzyme - colorimetric method and enzyme - electrode

1 Scope

GB/T 16285-2008 is the Chinese national standard on determination of glucose in food - enzyme - colorimetric method and enzyme - electrode method. 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 25 June 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 January 2009. Classification: ICS (ICS) , CCS X04. 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 standard specifies the enzyme - colorimetric method and enzyme - Determination of glucose electrode analysis steps. This standard applies to the determination of various types of food glucose; also applies to the other components of the food is converted to glucose measurement. The standard enzyme - colorimetric minimum detectable limit of 0.01µg/mL; Enzyme - The minimum detection limit of the electrode 1.0mg/100mL.

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.

GB/T 6682 Water Analysis Laboratory specifications and test methods (GB/T 6682-1992, neq

ISO 3696. 1987) 3 enzyme - colorimetric

3.1 Method summary Glucose oxidase (the GOD) under aerobic conditions, the catalytic beta-D- glucose (aqueous solution of glucose) oxidation reaction of D- glucose -delta- Acid lactone and hydrogen peroxide. By peroxidase (POD) catalyzed hydrogen peroxide with 4-aminoantipyrine to form a red quinone Abigail forest and phenol amine. Quinone imine measured absorbance at 505nm wavelength, calculate the content of glucose in food.

3.2 Scheme $C_6H_{12}O_6 + O_2 \rightarrow GOD \ C_6H_{10}O_6 + H_2O_2$ $H_2O_2 + C_6H_5OH + C_{11}H_{13}N_3O \rightarrow POD \ C_6H_5NO + H_2O$

3.3 Reagents and solutions

3.3.1 Reagents and analysis of water All reagents were analytical reagent use, or biochemical reagents; analysis of water should comply with two water specifications

GB/T 6682 regulations, or redistilled Distilled water.

3.3.2 Combo Kits

1 Bottle. contains phosphate buffer solution (0.2mol/L, pH = 7.0) 100mL, wherein 4-amino-antipyrine was 0.00154mol/L. 2 bottles. containing phenol solution (0.022mol/L) 100mL. 3 bottles. containing glucose oxidase (glucoseoxidase) 400U (activity units), peroxidase (horseradish, peroxidase) 1000U (activity units). Vitality glucose oxidase and peroxidase requirements and determination Appendix A. 1,2,3 bottle should be kept at about 4 °C.

3.3.3 enzyme reagent solution Will be on the 1st bottle (3.3.2) and 2 bottles (3.3.2) fully mix the contents evenly, then No. 3 bottles (3.3.2) dissolved its contents Gently shake (do not shake it vigorously), glucose oxidase and peroxidase completely dissolved. This solution should be at about 4 °C preservation, valid 1 month. Weigh 3.7g of potassium ferrocyanide, dissolved in 100mL of water, shake well.

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