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

GB/T 21728-2008

Brick tea - Determination of fluoride content

砖茶含氟量的检测方法

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Foreword

This standard is proposed and managed by China Federation of Supply and Marketing Cooperatives. This standard was drafted. China Federation of Supply and Marketing Cooperatives Hangzhou Tea Research Institute. The main drafters of this standard. Zhou Weilong, Xu Jianfeng, Weng Kun. Detection brick tea fluoride content

1 Scope

GB/T 21728-2008 is the Chinese national standard on brick tea - determination of fluoride content, 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 4 May 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 October 2008. Classification: ICS 67.140.10, 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 ion selective electrode detection method of brick tea fluoride content. This standard applies to raw materials and finished brick fluorine content test.

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 8302 sampling tea Sample Preparation and Determination of dry matter content GB/T

8303 Tea grated

3 Terms and Definitions

The following terms and definitions apply to this standard.

3.1 Including black tea, Fu brick tea, flower tea, brick tea, Kang brick tea, rice tea, golden tip tea, tea tight, Tuocha like. Principle 4 FISE lanthanum fluoride single-crystal film of the fluoride ion selective response to produce the number of fluorine electrode and a saturated calomel electrode in the test Test solution, the potential difference can change with the solution of fluorine ion activity changes, variation in line with the Nernst potential (Nernst) equation, See equation (1). $E = E_0 - 2.303RT/F \lg Ba F - (1)$ Where. E

--- electromotive force, in millivolts (mV); E_0

--- under certain experimental conditions constant value, in millivolts (mV); R

--- molar gas constant, 8.31441J/(mol · K); T

--- thermodynamic temperature, the unit is open (K); F

--- Faraday constant, 96486.70C/mol; -

--- F. Ba fluoride ion concentration in units of moles per liter (mol/L). E and $\lg Ba F$ - linear. $2.303RT/F$ for the slope of the line (25 °C when 59.16). Fluoride ion forms a complex with the Fe^{3+} , Al^{3+} and SiO_3^{2-} plasma interfere with the determination of other common ions had no effect, the acidity of the liquid is measured pH5 ~ 6, the total ionic strength adjustment Festival buffer eliminate interfering ions and its acidity.

5 Instruments

5.1 fluorine electrode. PF-1 type or other models.

5.2 pH meter. pHs-2 type or potentiometer.

5.3 magnetic stirrer.