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PEOPLE'S REPUBLIC OF CHINA

JJF 1816-2020

Calibration Specification for Raw-Milk Freezing Point Testers

生乳冰点仪校准规范

(English Translation)

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Introduction

This specification is based on JJF 1071-2010 "Rules for Compiling National Measurement and Calibration Specifications", JJF 1001-2011 "General Measurement Terms and Definitions "and JJF 1059.1-2012" Measurement Uncertainty Evaluation and Expression "as the basic series of specifications Make it.

This specification refers to ISO 5764/IDF108..2009 "Determination of the freezing point of

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milk" Thermistor freezing point method (Benchmark method) "[Milk-Determinationoffreezingpoint-Thermistorcryoscopemethod (Referencemethod)], GB 5413.38-2010 "Determination of Freezing Point of Raw Milk of National Food Safety Standard" Technical content.

This specification is the first release.

Calibration specification for raw milk freezing point instrument

1 Scope

This specification is applicable to the calibration of raw milk freezing point instrument based on thermistor for measuring freezing point temperature.

2 Reference documents this specification refers to the following documents.

GB 5413.38-2010 National Food Safety Standard Determination of Freezing Point of Raw Milk ISO 5764/IDF108..2009 Determination of freezing point of milk Thermistor freezing point method (reference method) [Milk-Determinationoffreezingpoint-Thermistorcryoscope method (Reference method)] for dated reference documents, only the dated version applies to this specification; for those without date references the latest version (including all amendments) is applicable to this specification.

3 Terms and units of measurement

3.1 FreezingPointDepression, FPD Freezing point of raw milk. The unit is expressed in millidegrees Celsius (m ° C).

4 Overview

The working principle of the raw milk freezing point instrument (hereinafter referred to as the freezing point instrument) is to directly measure the raw temperature through the thermistor inside the instrument.

Milk freezing point. When measuring, put a certain amount of milk sample in the sample tube, put it in a cold trap, and immerse the temperature probe into the milk sample to be measured in the center, the freezing point instrument begins to cool. When the milk sample to be tested is cooled to -3 °C, the freezing point instrument performs seeding Continue to release heat to raise the temperature of the milk sample to the highest point, and keep the temperature constant for a short time, which is the same as the freezing point temperature.

Taiwan, this temperature is the freezing point of the milk sample.

The freezing point instrument is usually composed of refrigeration system, temperature measurement system, temperature control system, data processing system and display system.

composition.

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5 Metrological characteristics the main measurement characteristics of the freezing point meter are shown in Table 1.

Table 1 Main measurement characteristics of freezing point instrument

Serial number characteristic parameter requirements

1 Indication error MPE. ± 5m °C

2 Repeatability <=0.5%

3 Stability <=6m °C

Note: The above indicators are not used to determine eligibility, for reference only.

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