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

GB/T 23545-2009

**Determination of manganese in white wine -- Inductively
coupled plasma atomic emission spectrometry**

白酒中锰的测定 电感耦合等离子体原子发射光谱法

(English Translation)

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Foreword

This standard by the National Standardization Technical Committee of Food Industry and focal points.

This standard was drafted. People's Republic of China Exit Inspection and Quarantine of Heilongjiang, Jilin People's Republic of China Entry-Exit Inspection and Quarantine Bureau.

Introduction

Manganese is a trace element necessary for normal metabolism of the body, but an excess of manganese into the body can cause poisoning. Liquor is the main source of manganese and treated with potassium permanganate into wine. Manganese ions in an alkaline or neutral solution, manganese atoms price drop in price from 7 tetravalent, reaction manganese dioxide. In the compounds of manganese, the manganese atom lower the price, the greater the toxicity. Requirements wine in hygiene standards in the manganese content must not exceed 2 μ g/mL (based on Mn). This standard was proposed by the determination of manganese in wine by ICP-AES, the method is sensitive, high recovery rate, simple operation Single, easy to promote the use of.

Determination of manganese in the liquor Inductively coupled plasma atomic emission spectrometry

1 Scope

This standard specifies the liquor manganese by inductively coupled plasma atomic emission spectroscopy method.

This standard applies to the determination of various liquor manganese.

The standard detection limit. 0.002 μ g/mL.

The standard detection range. 0.002µg/mL ~ 10µg/mL.

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.

Preparation of GB/T 601 chemical reagent standard titration solution Preparation of standard solution of GB/T 602 chemical reagent determination of impurities (GB/T 602-2002, ISO 6353-1. 1982, NEQ) GB/T 603 chemical reagent test methods in the formulation and preparation of products (GB/T 603-2002, ISO 6353-1 with. 1982, NEQ) GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD) Principle 3 After wet digestion liquor samples, dilute to volume to volume, the sample solution is introduced into the liquor ICP-AES plasma flame, Mn Emission spectral intensity to determine its content from the calibration curve.

4 Reagents

This standard reagents and water, did not indicate when the other requirements, refer to two water gifted class pure reagents and GB/T 6682 stipulated.

Standard test solution required impurity standard solution, preparations and products, did not indicate when the other requirements, according to GB/T 601, GB/T 602, GB/T 603 provisions prepared.

4.1

nitrate.

4.2

perchloric acid.

4.3

mixed acid digestion. nitric acid + perchloric acid = 5 + 1.

4.4

nitric acid (5%). Take 5 parts of nitric acid was mixed with 95 parts of water.

4.5

manganese standard solution (1000µg/mL). Manganese standard solution according to GB/T 602 method of preparation, or directly use the nationally recognized standard substance.

4.6

manganese standard solution (100 μ g/mL). lessons 10.0mL manganese standard stock was placed in a 100mL flask, nitric acid (5% water Solution) (4.4) to the mark.

5 Instruments

5.1

Inductively coupled plasma atomic emission spectrometer.

5.2

water bath.