

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

SN/T 4675.5-2016

**Determination of organic acids in wine for export - Ion
chromatography**

出口葡萄酒中有机酸的测定 离子色谱法

(English Translation)

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Foreword

SN/T 4675 "export wine quality and safety analysis method" is divided into 30 parts.

- SN/T 4675.1 Determination of export glycerol in the enzyme method;
- SN/T 4675.2 Export wine 2,3-butanediol Determination of gas chromatography;
- Determination of stable carbon isotope ratio of ethanol in exported wine by SN/T 4675.3;
- SN/T 4675.4 Determination of lactic acid in export wine enzymatic;
- SN/T 4675.5 wine exports - Determination of organic acids by ion chromatography;
- SN/T 4675.6 Determination of glucose, fructose and sucrose in export wines;
- SN/T 4675.7 Determination of acetaldehyde in wine exports - Gas Chromatography - Mass Spectrometry;
- SN/T 4675.8 Export wine 5-hydroxymethyl furfural Determination of liquid chromatography;
- SN/T 4675.9 Exported wine - Determination of diethylene glycol - Gas Chromatography - Mass Spectrometry;
- SN/T 4675.10 Determination of ochratoxin A in export wines - Liquid chromatography - mass spectrometry/mass spectrometry;
- SN/T 4675.11 Determination of 7 kinds of anthocyanins in exported wine by ultra performance liquid chromatography;
- SN/T 4675.12 export wine lysozyme Determination of liquid chromatography;
- SN/T 4675.13 Determination of 2,4,6-trichloro-phenyl ether residues in exported wine by gas chromatography-mass spectrometry;
- SN/T 4675.14 Determination of natamycin in wine exports by liquid chromatography -

mass spectrometry/mass spectrometry;

--- SN/T 4675.15 exported wine salicylic acid, dehydroacetic acid and p-chlorobenzoic acid Determination of liquid chromatography;

--- SN/T 4675.16 Determination of fumaric acid in exported wine by liquid chromatography - mass spectrometry/mass spectrometry;

--- SN/T 4675.17 Determination of butyl tin content in exported wine - Gas Chromatography - Mass Spectrometry/Mass Spectrometry;

--- SN/T 4675.18 Determination of dithiocarbamate residues in export wines; headspace gas chromatography;

Determination of sodium, magnesium, potassium, calcium, chromium, manganese, iron, copper, zinc, arsenic, selenium, silver, cadmium and lead in exported wines;

--- SN/T 4675.20 Determination of rare earth elements in exported wine by inductively coupled plasma mass spectrometry;

--- SN/T 4675.21 Determination of soluble inorganic salts exported wine Ion chromatography;

--- SN/T 4675.22 Determination of total sulfur dioxide in wine exports colorimetry;

--- SN/T 4675.23 Determination of ammonia nitrogen in wine and grape juice exports continuous flow analyzer;

--- SN/T 4675.24 Export wine Fulin - Schock Index Determination spectrophotometer;

--- SN/T 4675.25 Determination of color of export wine CIE1976 ($L^* a^* b^*$) color space method;

--- SN/T 4675.26 Determination of turbidity of exported wine - Scattered light method;

--- SN/T 4675.27 Determination of export wine alkaline ash;

--- SN/T 4675.28 exports of wine bacteria, mold and yeast count;

--- SN/T 4675.29 Export wine wine yeast test real-time fluorescent PCR;

--- SN/T 4675.30 Exported wine Bayer engaged yeast test real-time PCR method.

This section is part 5 of SN/T 4675.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This part of the revision uses the International Grape and Wine Organization (OIV) OIV-MA-AS313-16 "organic acids and anions in wine Determination - Ion Chromatography, "the main content of the amendment.

--- Increasing the determination of lactic acid and acetic acid content, reducing the

determination of isocitrate content.

Please note that some of this document may be patentable. The issuing agencies of this document do not bear the responsibility of identifying these patents.

This part of the national certification and accreditation supervision and management committee proposed and centralized.

This part of the drafting unit. People's Republic of China Guangdong Exit Inspection and Quarantine, People's Republic of China Shanghai Entry-Exit Inspection and Quarantine Bureau, Exit Inspection and Quarantine of Qinhuangdao, People's Republic of China.

1 Scope

This part of SN/T 4675 specifies the method for the determination of organic acids in wine by ion chromatography.

This section applies to the determination of organic acids in wine.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 6682 analytical laboratory water specifications and test methods

3 Method summary

The sample was diluted with water, separated by anion exchange chromatography, ion chromatography - conductivity detector, retention time qualitative, external standard method Quantitative.

4 Reagents and materials

Unless otherwise specified, the reagents used are of analytical grade, test water GB/T 6682 provides a water.

4.1

Standard Substance Lactic acid (molecular formula $C_3H_6O_3$, CAS No.50-21-5), acetic acid (formula $C_2H_4O_2$, CAS No. 64-19-7), apple Acid (molecular formula $C_4H_6O_5$, CAS No. 6915-15-7), tartaric acid (formula $C_4H_6O_6$, CAS No. 133-37-9), citric acid (molecule $C_6H_8O_7$, CAS No. 77-92-9), purity greater than 99%.

4.2

organic acid standard stock solution (1000mg/L) were accurately weighed lactic acid, acetic acid, malic acid, tartaric acid, citric acid (4.1) 0.1g (Accurate to 0.0001g) in five 100mL volumetric flask, dissolved in water and set the volume. Five organic acid concentrations are 1000mg/L.

4.3

standard solution of organic acids were accurately measure the amount of 0.1mL, 0.2mL, 0.5mL, 1.0mL, 2.0mL lactic acid, acetic acid, citric acid Standard stock solution (4.2) and 0.2 mL, 0.5 mL, 1.0 mL, 2.0 mL, 4.0 mL malic acid, tartaric acid standard stock solution (4.2) Five 100mL volumetric flask, diluted with water to the mark, formulated into a mixed solution of 5 kinds of organic acids. Mixed standard solution of lactic acid, B.

The concentrations of acid and citric acid were 1.0mg/L, 2.0mg/L, 5.0mg/L, 10.0mg/L and 20.0mg/L respectively. The concentration of malic acid and tartaric acid Degrees were 2.0mg/L, 5.0mg/L, 10.0mg/L, 20.0mg/L, 40.0mg/L, now with the current use.

5 Instruments and equipment

5.1

Ion Chromatograph with conductivity detector, gradient pump.

5.2

Analysis of the balance. Sense of 0.1mg.

5.3

Horizontal Oscillator.

5.4

ultrasonic bath.

5.5

water machine.

5.6

filter membrane .0.45μm, water system.