

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

SN/T 4675.8-2016

**Determination of 5-hydroxymethylfurfural in wine for export -
HPLC method**

出口葡萄酒中5-羟甲基糠醛的测定液相色谱法
(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 8 of the 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-AS315-05B "Determination of hydroxymethyl furfural in wine Set high performance liquid chromatography. " This section is technically consistent with this method, only for the

OIV method OIV-MA-AS315-05B Individual content made editorial changes, the main content of the amendment.

--- Liquid chromatography mobile phase water methanol acetic acid = 40 9 1, changed to 10% (volume fraction) aqueous methanol.

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 Qinhuangdao Exit Inspection and Quarantine Bureau, Shanghai Entry-Exit Inspection and Quarantine Bureau, People's Republic of China.

1 Scope

This part of SN/T 4675 specifies the method for the determination of 5-hydroxymethylfurfural in wine by high performance liquid chromatography.

This section applies to the qualitative detection and quantitative detection of 5-hydroxymethyl furfural 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 principle

After 5-hydroxymethylfurfural in wine was separated by reversed-phase liquid chromatography, it was detected by UV detector at 284nm, Time for qualitative, standard curve of external standard method.

4 Reagents and materials

Reagents were of analytical grade unless otherwise stated. Water using GB/T 6682 provisions of a water.

4.1

Methanol (CH₃OH). Chromatographic purity.

4.2 10% methanol in water (volume fraction). Accurately draw 100mL of methanol (4.1), water to volume 1L, mix.

4.3 Standard Substance 5-hydroxymethylfurfural (C₆H₆O₃, CAS No. 67-47-0), purity

4.4 Standard stock solution Accurately weigh the appropriate amount of 5-hydroxymethyl furfural standard substance, with 10% aqueous methanol solution (4.2) formulated at a concentration of 200mg/L standard stock solution. The solution can be stored in a sealed brown bottle at 0 ° C to 4 ° C for 2 to 3 months.

4.5 standard intermediate solution. Accurately measure the standard stock solution (4.4) 10.0mL in 100mL volumetric flask with 10% aqueous methanol (4.2) constant volume to the mark, dubbed the concentration of 20.0mg/L standard intermediate solution. The solution is in a sealed brown bottle at 0 ° C to 4 ° C can save 2 to 3 months.

4.6 standard working solution, respectively, accurately measure the standard intermediate solution (4.5) 0.05mL, 0.1mL, 0.25mL, 0.5mL, 1.0mL, 2.5mL in 10mL volumetric flask, dilute to volume with 10% aqueous methanol solution (4.2), respectively, dubbed 0.1mg/L, 0.2mg/L, 0.5mg/L, 1.0mg/L, 2.0mg/L, 5.0mg/L standard working solution, now with the current use.

4.7 Microporous membrane .0.45μm, water system.

5 Instruments and equipment

5.1

High Performance Liquid Chromatograph with UV Detector.

5.2

Horizontal Oscillator.