

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

SN/T 4675.21-2016

**Determination of soluble inorganic salts in wine for export--Ion
chromatography**

出口葡萄酒中可溶性无机盐的测定 离子色谱法

(English Translation)

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Foreword

SN/T 4675 "Method for Analysis of Quality and Safety of Exported Wines" is divided into 30 sections.

- SN/T 4675.1 Determination of glycerol in wine exports Enzymatic;
- SN/T 4675.2 Determination of 2,3-butanediol in exported wines by gas chromatography;
- SN/T 4675.3 Determination of Stable Carbon Isotope Ratio of Ethanol in Export Wines;
- SN/T 4675.4 Determination of Lactic Acid in Export Wines Enzymatic;
- SN/T 4675.5 Determination of organic acids in exported wines by ion chromatography;
- SN/T 4675.6 Determination of glucose, fructose and sucrose in exported wines;
- SN/T 4675.7 Determination of acetaldehyde in exported wines by gas chromatography-mass spectrometry;
- SN/T 4675.8 Determination of 5-hydroxymethylfurfural in wines by liquid chromatography;
- SN/T 4675.9 Determination of diethylene glycol in exported wines by gas chromatography-mass spectrometry;
- SN/T 4675.10 Determination of ochratoxin A in wines for liquid chromatography-mass spectrometry/mass spectrometry;
- SN/T 4675.11 Determination of seven anthocyanins in wines exported by ultra-high performance liquid chromatography;
- SN/T 4675.12 Determination of Lysozyme in Export Wines by Liquid Chromatography;
- SN/T 4675.13 Determination of residues of 2,4,6-trichlorotoluene ether in wines exported by liquid chromatography-tandem mass spectrometry/mass spectrometry;
- SN/T 4675.14 Determination of natamycin in wines for export - Liquid chromatography-mass spectrometry/mass spectrometry;

- SN/T 4675.15 Determination of salicylic acid, dehydroacetic acid and p-chlorobenzoic acid in wines by liquid chromatography;
- SN/T 4675.16 Determination of fumaric acid in wine exports by liquid chromatography-mass spectrometry/mass spectrometry;
- SN/T 4675.17 Determination of butyltin content in exported wines by gas chromatography-mass spectrometry/mass spectrometry;
- SN/T 4675.18 Determination of dithiocarbamate residues in exported wines. Headspace gas chromatography;
- SN/T 4675.19 Determination of sodium, magnesium, potassium, calcium, chromium, manganese, iron, copper, zinc, arsenic, selenium, silver, cadmium, and lead in wine exports;
- SN/T 4675.20 Determination of rare earth elements in wines exported by inductively coupled plasma mass spectrometry;
- SN/T 4675.21 Determination of soluble inorganic salts in exported wines by ion chromatography;
- SN/T 4675.22 Determination of total sulfur dioxide in wines by colorimetric method;
- SN/T 4675.23 Determination of ammonia nitrogen in wine and grape juice exported by continuous flow analyzer method;
- SN/T 4675.24 Determination of the export of the Folin-Shaughha index of the wine by spectrophotometry;
- SN/T 4675.25 Determination of color of exported wines CIE1976 ($L^*a^*b^*$) color space method;
- SN/T 4675.26 Determination of export turbidity scattered light method;
- SN/T 4675.27 Determination of alkaline ash content of exported wines;
- SN/T 4675.28 Export of wine bacteria, mold and yeast count;
- SN/T 4675.29 Real-time fluorescent PCR assay for wine yeast extraction in wine exports;
- SN/T 4675.30 Bayer splice yeast assay for real-time fluorescence PCR in exported wines.

This section is part 21 of SN/T 4675.

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

1 Scope

This part of SN/T 4675 specifies the method of ion chromatographic determination of soluble inorganic salts in wine.

This section applies to the determination of sulfates, nitrates, nitrites and chlorides in wine.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. For undated references, the latest version (including all amendments) applies to this document.

GB/T 6682 Analysis Laboratory Water Specifications and Test Methods

3 Method summary

The pH of the wine was adjusted to 7-8 and the sulfite in the soluble inorganic salt was stabilized with formaldehyde solution. The supernatant was centrifuged.

The liquid was purified and injected into an ion chromatograph equipped with a conductivity detector. The retention time was qualitative and the external standard method was used for quantification.

4 Reagents and materials

The water uses a grade of water that meets the requirements of GB/T 6682.

4.1

Sodium hydroxide. Premium grade.

4.2

Formaldehyde. 36% to 40%.

4.3

Sodium chloride. NaCl, CAS. 7647-145, reference reagent or certified standard solution.

4.4

Sodium nitrite. NaNO₂, CAS. 7632-00-0, reference reagent or certified standard solution.

4.5

Sodium Nitrate. NaNO₃, CAS. 7631-99-4, reference reagent or certified standard solution.

4.6

Sodium sulfate. Na₂SO₄, CAS. 7757-82-6, reference reagent or certified standard solution.

4.7

Sodium carbonate. Na_2CO_3 , CAS. 497-19-8, pure grade.

4.8

Sodium bicarbonate. NaHCO_3 , CAS number. 144-55-8, pure grade.

4.9

alkaline adjustment solution. 0.5mol/L sodium hydroxide solution. Weigh 20.0g of sodium hydroxide (4.1), dissolve it in water and transfer it to 1000mL Dip flask and dilute to the mark and mix.

4.10

Sulfite stabilizer. Measure 100 mL of formaldehyde (4.2), and fill up with water in a 1000 mL volumetric flask and mix.

4.11

Chloride standard stock solution. Weigh 1.6485g of sodium chloride (4.3), which is burned to constant weight at 500°C ~ 600°C , dissolved in water and transferred in.

1000.0mL volumetric flask in constant volume. The stock solution has a chloride ion concentration of 1000.0 mg/L. Or use a certified reference material solution.

4.12

Nitrite Standard Stock Solution. Weigh 1.4997g of sodium nitrite (4.4). Dissolve in water and transfer to a 1000.0mL volumetric flask.

The stock solution has a nitrite ion concentration of 1000.0 mg/L. Or use a certified reference material solution.

4.13

Nitrate standard stock solution. Weigh 1.3708g of sodium nitrate (4.5) dried to constant weight at 120°C ~ 130°C , dissolved in water and transferred in.

1000.0mL volumetric flask in constant volume. The stock nitrate concentration was 1000.0 mg/L. Or use a certified reference material solution.

4.14

Sulfate standard stock solution. Weigh 1.4786g anhydrous sodium sulfate (4.6) dried to constant weight at 105°C ~ 110°C , dissolved in water,