

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

SN/T 4675.13-2016

**Determination of 2, 4, 6-trichloroanisole residue in wines for
export--GC-MS method**

出口葡萄酒中2,4,6-三氯苯甲醚残留量的测定 气相色谱-质谱法

(English Translation)

Issued on: December 12, 2016

Implemented on: July 1, 2017

Issued by: General Administration of Customs

Table of Contents

Foreword
1 Scope
2 Normative references
3 Method summary
4 Reagent materials

Foreword

SN/T 4675 "Method for Analysis of Export Wine Quality" 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 Ethanol Carbon Isotope Ratio 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 Export Wines by 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 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 residual 2,4,6-trichlorotoluene ether in wines exported by gas chromatography-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 13 of SN/T 4675.

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

This standard is proposed and managed by the National Certification and Accreditation Regulatory Commission.

1 Scope

This part of SN/T 4675 specifies the detection of 2,4,6-trichloroanisole residues in wine by gas chromatography-mass spectrometry.

method.

This section applies to the determination of 2,4,6-trichloroanisole residues in white wines, red wines and sparkling wines.

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 residual 2,4,6-trichloroanisole in the sample is adsorbed by the high-purity helium gas in the trap tube, and the trap tube is heated to a high purity helium gas.

After backflushing, the target components thermally desorbed were separated by gas chromatography and detected with a mass spectrometer and quantified by an internal standard method.

4 Reagent materials

Unless otherwise stated, the reagents used were of analytical grade and water was a grade of water specified in GB/T 6682.

4.1

Methanol. Chromatographically pure.

4.2

Sodium chloride.

4.3

Standard crystal. 2,4,6-Trichloroanisole, CAS No. 87-40-1, purity >99%.

4.4 2,4,6-trichloroanisole standard stock solution (1000 µg/mL). Accurately weigh 0.1g (accurate to 0.1mg) of the trichloroanisole standard product.

Dissolve the methanol and bring it to 100 mL. Mix well and store for 3 months.

4.5 2,4,6-trichloroanisole standard intermediate solution (1 µg/mL). Accurately remove

0.1mL of trichloroanisole stock solution in 100mL capacity in the bottle, dilute to the mark with methanol, mix, and use now.

4.6 2,4,6-trichloroanisole standard working solution (10 μ g/mL). Accurately remove 0.1mL of trichloroanisole intermediate solution in 10mL capacity in the bottle, dilute to the mark with methanol, mix, and use now.

4.7

Isotope internal standard. 2,4,6-Trichloroanisole-D5 internal standard (2,4,6-trichloroanisole-D5), purity >95%.

4.8 2,4,6-trichloroanisole internal standard stock solution (1000 μ g/mL). Accurately weigh 0.1g (accurate to 0.1mg) of the internal standard of trichloroanisole.

Dissolve with methanol and bring to volume to 100 mL. Mix well and store for 3 months.

4.9

Intermediate solution of 2,4,6-trichloroanisole internal standard (1 μ g/mL). Pipette 0.1mL of trichloroanisole internal standard solution into 100mL accurately in a measuring flask, dilute to the mark with methanol and mix.

4.10 2,4,6-trichloroanisole internal standard working solution (10 μ g/mL). Accurately pipette 0.1mL intermediate solution of trichloroanisole to 10mL in a volumetric flask, dilute to the mark with methanol, mix, and use now.