



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

GB 31604.36-2016

**National food safety standard - Food contact materials and
products - Determination of creosote in cork**

食品安全国家标准 食品接触材料及制品 软木中杂酚油的测定

(English Translation)

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Foreword

This standard replaces SN/T 2828-2011 "Food contact materials for export.

Wood materials. Determination of cresol in cork. Gas chromatography-mass spectrometry method".

Compared with SN/T 2828-2011, the main differences of this standard are as follows.

- Changed the name of the standard to "National Food Safety Standard - Food contact materials and products -Determination of creosote in cork";
- Replaced single point method to standard curve method for quantitative method.

National Food Safety Standard -
Food contact materials and products -
Determination of creosote in cork

1 Scope

This standard specifies the gas chromatography-mass spectrometry method for the determination of creosote in cork for food contact materials.

This standard is applicable to the determination of creosote in cork for food

contact materials.

2 Principle

Extract the creosote in the sample by Soxhlet extractor with absolute ethyl alcohol, concentrate the extracted solution and the meter volume. Filter the extracted solution by 0.45µm organic microporous membrane, then determine by gas chromatography-mass spectrometry (GC-MS). Use retention time for qualitative determination and external standard method for quantitative determination.

3 Reagents and materials

Unless otherwise stated, the reagents used in this method all shall be analytical pure. The water shall be the primary water specified in GB/T 6682.

3.1 Reagents

Absolute ethyl alcohol (CH₃CH₂OH).

3.2 Standard substance

Standard creosote. purity no less than 98%, see appendix A.

3.3.1 Preparation of standard reserve solution

Prepare the standard reserve solution 100 µg/mL with absolute ethyl alcohol.

3.3.2 Preparation of standard working solution

Dilute the standard reserve solution into 0.01µg/mL, 0.02µg/mL, 0.05µg/mL, 0.1µg/mL and 0.2µg/mL of standard working solution with absolute ethyl alcohol. Or make standard working solution with suitable concentration as required.

Note: The valid period for standard solution stored in 0~4°C refrigerator is 6 months.

5.1 Sample preparation

Take appropriate amount of cork sample, cut and ground into powder with diameter less than 1mm by cutting and grinding machine, fully mix and store in a closed container avoiding light.

5.2 Sample extraction

Weigh accurately 2g of sample (accuracy to 1mg), put in the cylinder of 150mL Soxhlet extractor and add 80mL of absolute ethyl alcohol into round-bottom flask. Extract at 80°C and 95°C for 4 hours with the reflux no less than 4 times in

1 hour. After cooling, evaporate with rotating evaporator at 50°C until about 5

mL is left. Then transferred and meter to 10 mL with absolute ethyl alcohol.

Filter by organic filter membrane and wait for determination by gas chromatography-mass spectrometry (GC-MS).

5.3.1.1 Gas chromatography-mass spectrometry reference condition

The following parameters are available for reference, see Appendix B for example.

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