

ICS 71.100.70

CCS Y 42



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

GB/T 45212-2025

**Determination of methyldibromo glutaronitrile in cosmetics -
Gas chromatography method**

化妆品中甲基二溴戊二腈的测定 气相色谱法

Issued on: January 24, 2025

Implemented on: August 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by China Light Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Flavors and Fragrances and Cosmetics (SAC/TC257).

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Introduction

The substances tested in this document are prohibited raw materials as stipulated in China's "Technical Specifications for Safety of Cosmetics (2015 Edition)".

Prohibited raw materials refer to substances that cannot be used as cosmetic raw materials. The "Cosmetic Safety Technical Specifications (2015 Edition)" stipulates. If the technical When it is unavoidable to introduce prohibited substances into cosmetics as impurities, the national limit should be followed; if no limit is set, Safety risk assessment to ensure that no harm to human health occurs under normal, reasonable and foreseeable conditions of use.

At present, China has not yet stipulated the limit value of this substance. The formulation of this document only provides a detection method for the determination of this substance in cosmetics.

Determination of Methyl Dibromoglutaronitrile in Cosmetics Gas chromatography
Warning---People who use this document should have practical experience in formal laboratory work. This document does not address all possible safety issues.

The user is responsible for taking appropriate safety and health measures and ensuring that the conditions are met in accordance with relevant national regulations.

1 Scope

This document describes the principle, reagents and materials, instrumentation, sample preparation and gas chromatography method for the determination of methyl dibromoglutaronitrile in cosmetics.

Preparation and experimental steps, experimental data processing, recovery rate and precision, etc.

This document is applicable to the determination of methyl dibromoglutaronitrile in cosmetics such as aqueous solutions, emulsions, creams, etc.

The detection limit of the method in this document is 10.0 mg/kg and the quantification limit is 20.0 mg/kg.

2 Normative references

This document has no normative references.

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Principle

The sample was extracted with acetonitrile by ultrasonic method, and the extract was purified by n-hexane, centrifuged at high speed, and filtered to obtain the target solution.

The test solution was injected into gas chromatograph and detected by electron capture detector, with retention time for qualitative analysis and external standard method for quantitative analysis.

5 Reagents and Materials

Unless otherwise specified, only chromatographic grade reagents were used. 5.1 Acetonitrile. 5.2 n-Hexane.

5.3 Methyl dibromoglutaronitrile standard substance/standard sample. purity not less than 98%, English name, CAS number, The molecular formula, relative molecular mass and chemical structure are shown in Table A.1 in Appendix A.

5.4 Acetonitrile saturated n-hexane solution. Take 20 mL of acetonitrile (5.1), add it to 50 mL of n-hexane (5.2), mix well, let stand, and the supernatant spare.

5.5 Standard stock solution ($\rho = 1000 \mu\text{g/mL}$). Accurately weigh 10 mg (accurate to 0.0001 g) of the standard substance/standard sample (5.3) and place it in a 10 mL brown volumetric flask, dissolve with acetonitrile (5.1) and dilute to volume to obtain a standard stock solution with a mass concentration of $1000 \mu\text{g/mL}$.

Store at $2^{\circ}\text{C} \sim 8^{\circ}\text{C}$ away from light. It can be stored for 6 months.

5.6 Filter membrane. pore size $0.22 \mu\text{m}$, made of polytetrafluoroethylene.