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

GB/T 44165.3-2024

**Determination of key chemicals in consumer products-Part
3:Chloroethanes**

消费品中重点化学物质检测方法 第3部分：氯代乙烷

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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.

This document is part 3 of GB/T 44165 "Detection methods for key chemical substances in consumer products". GB/T 44165 has been published The following parts.

- Part 1: Short-chain chlorinated paraffins;
- Part 2: Migration of styrene;
- Part 3: Ethyl chloride;
- Part 4.1,4-Dichlorobenzene;
- Part 5: Phenol;
- Part 6: Acrylamide.

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 and coordinated by the National Technical Committee on Consumer Product Safety Standardization (SAC/TC508).

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Introduction

GB/T 44165 "Detection Methods for Key Chemical Substances in Consumer Products" is a revision of GB/T 39498 "Control Methods for Use of Key Chemical Substances in Consumer Products".

The relevant chemical substances in the Guidelines provide detection methods.

GB/T 44165 is a unified or supplementary method standard for the detection of chemical substances in consumer products. It is intended to provide a unified or supplementary method standard for the detection of chemical substances in consumer products.

The project provides technical support for the supervision of relevant chemical substances in consumer products and is planned to consist of 9 parts.

- Part 1: Short-chain chlorinated paraffins;
- Part 2: Migration of styrene;
- Part 3: Ethyl chloride;
- Part 4.1,4-Dichlorobenzene;
- Part 5: Phenol;
- Part 6: Acrylamide;
- Part 7: Polychlorinated naphthalenes;
- Part 8: Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA);
- Part 9: Hexabromocyclododecane.

Detection methods for key chemical substances in consumer products Part 3: Ethyl chloride
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 compliance with the conditions stipulated in relevant national laws and regulations.

1 Scope

This document describes a method for the gas chromatographic determination of ethyl chloride in consumer products.

This document applies to chloroethane (1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane) in consumer products such as cleaning agents.

Other products in consumer products shall be determined in accordance with this document after verification.

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

After pretreatment, the samples were measured by gas chromatograph equipped with an electron capture detector and quantified by the internal standard method.

5 Reagents or materials

5.1 Carrier gas. nitrogen, purity $\geq 99.995\%$.

5.2 Auxiliary gas (septum purge and tail gas). nitrogen, the same as the carrier gas.

5.3 Internal standard. 1-bromopropane, or a compound that does not exist in the sample and can be completely separated from other components on the chromatogram. Purity At least 99% (mass fraction) or known concentration.

5.4 Calibration compounds. compounds used for calibration, such as 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, pentachloroethane Ethane, etc.; purity of at least 98% (mass fraction) or known concentration.

5.5 Dilution solvent. methanol (chromatographic grade).

6 Instruments and Equipment

6.1 Gas chromatograph, with the following configuration.

6.1.1 The inlet of the splitter device and the lining of the vaporization chamber are replaceable.

6.1.2 Programmed temperature controller.

6.1.3 Detector. Electron capture detector (ECD).

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