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

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**Food contact materials -- Determination of vinyl chloride  
monomer in plastics -- Gas chromatography**

食品接触材料 塑料中氯乙烯单体的测定 气相色谱法

**(English Translation)**

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## Table of Contents

Foreword

1 Scope

3 Reagents and materials

4 Instruments and equipment

5 Step, Analysis

5.1 Sample Preparation

5.2 Sample Preparation

### Foreword

The standard reference ENISO 6401:2004 "vinyl chloride homopolymer and copolymer of vinyl chloride monomer by gas chromatography" (English Version) develop.

The Standard Appendix A and Appendix B is an informative annex.

This standard was proposed by the National Certification and Accreditation Administration Committee.

This standard by the National Import and Export Food Safety Inspection Standardization Technical Committee (SAC/TC445) centralized.

This standard drafting unit. China Inspection and Quarantine Science Research Institute, People's Republic of China Hubei Entry-Exit Inspection and Quarantine, the State Environmental Protection Product Quality Supervision and Inspection Center, Department of Chemistry.

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Food contact materials Gas chromatography plastic vinyl chloride monomer

### 1 Scope

This standard specifies the determination of food contact materials PVC vinyl chloride monomer.

This standard applies to the determination of food contact polyvinyl chloride or vinyl chloride copolymers of vinyl chloride monomer.

The standard vinyl chloride - Determination of low limit of 0.50mg/kg.

## Principle 2

Test samples were dissolved in N, N- dimethylacetamide, a sample of vinyl chloride by automated headspace sampler injection using capillary gas Phase column separation, hydrogen flame ionization detector measurement, external standard. Can be manual headspace sampling mode, the injection operation see sidebar Record A.

## 3 Reagents and materials

Unless otherwise specified, all reagents were of analytical grade.

### 3.1

N, N- dimethylacetamide. 99%, respectively.

### 3.2

vinyl chloride standard solution. 5000mg/L, acetone or methanol as the solvent.

### 3.3

vinyl chloride stock solution (10mg/L). Join 10mLN in 10mL brown glass bottles, N- dimethylacetamide, using micro-injection Absorb 20 $\mu$ L vinyl chloride standard solution (3.2) into a glass vial, immediately sealing cap, balance 2h after, kept in 4 °C refrigerator.

### 3.4

vinyl chloride standard solution. in seven vial were added 10mLN, N- dimethylacetamide, using micro-syringe, respectively Draw 0 $\mu$ L, 50 $\mu$ L, 75 $\mu$ L, 100 $\mu$ L, 125 $\mu$ L, 150 $\mu$ L, 200 $\mu$ L chloride stock solution (3.3) slow injection top vial, Li that capped, mixed, to give N, N- dimethylacetamide vinyl chloride concentrations were 0mg/L, 0.050mg/L, 0.075mg/L, 0.100mg/L, 0.125mg/L, 0.150mg/L, 0.200mg/L.

## 4 Instruments and equipment

### 4.1

GC. Configure the automatic headspace sampler and flame ionization detector.

### 4.2

bottles. 10mL, bottle cap with silicone rubber or butyl rubber gasket.

### 4.3

bottles. 20mL, bottle cap with silicone rubber or butyl rubber gasket.

### 4.4

micro syringe. 25 $\mu$ L, 100 $\mu$ L, 200 $\mu$ L.

#### 4.5

Analysis of balance. a sense of the amount of 0.0001g, 0.01g.

#### 5.1 Sample Preparation

The sample was cut into small particles, accurately weighed amount of sample (eg 10g) in 150mL grinding mouth Erlenmeyer flask (accurate to 0.1mg), in accordance with Per gram of sample was added 10mLN, N- dimethylacetamide proportion to the Erlenmeyer flask, an appropriate amount (e.g. 100mL) N, N- dimethylacetamide Amines, immediately capped and shaken to dissolve (if difficult to dissolve, may be appropriate to heat up), to be completely dissolved into -18 °C refrigerator to cool save spare.

#### 5.2 Sample Preparation

From the refrigerator removed containing the sample solution Erlenmeyer flask, which weighed separately 10mL sample solution in two vial, immediately gland