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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3342-2012

Determination of residual monomers in acrylic resin. Gas chromatography-mass spectrometry

丙烯酸树脂中残余单体含量的测定 气相色谱-质谱法

(English Translation)

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Foreword

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

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

This standard was drafted. Xiamen, People's Republic of China Exit Inspection and Quarantine.

1 Scope

This standard specifies the acrylic resin of nine residual monomer (methyl acrylate, ethyl acrylate, methyl acrylate, methyl methacrylate, Ethyl acrylate, butyl acrylate, butyl methacrylate, styrene, acrylic and methacrylic acid) content by gas chromatography - mass spectrometry.

This standard applies to the acrylic resin of nine residual monomer (methyl acrylate, ethyl acrylate, methyl acrylate, methyl methacrylate, Ethyl determination of butyl acrylate, butyl methacrylate, styrene, acrylic acid and methacrylic acid) content.

Principle 2

Solid acrylic resin monomer residue was extracted with ethyl microwave wherein the polymer precipitated in methanol extract was filtered, the gas Chromatography mass spectrometry, according to their retention times and mass spectra qualitative, external standard. Liquid acrylic resin diluted with methanol directly, through After filtration, supra analysis.

3 Reagents and materials

Unless otherwise indicated, the reagents used were of analytical grade.

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3.1
methacrylate (CAS No. 96-33-3). purity >=97%.

3.2
acrylate (CAS No. 140-88-5). purity >=97%.

3.3
Methyl methacrylate (CAS No. 80-62-6). purity >=97%.

3.4
ethyl methacrylate (CAS No. 97-63-2). purity >=97%.

3.5
butyl acrylate (CAS No. 141-32-2). purity >=97%.

3.6
butyl methacrylate (CAS No. 97-88-1). purity >=97%.

3.7
Styrene (CAS No. 100-42-5). purity >=97%.

3.8
acrylic acid (CAS No. 79-10-7). purity >=97%.

3.9
methacrylate (CAS No. 79-41-4). purity >=97%.

3.10
ethyl acetate. chromatography.

3.11
Methanol. chromatographically pure.

3.12
Standard stock solution (1000mg/L). Weigh accurately methacrylate (3.1), ethyl acrylate (3.2), methyl methacrylate (3.3), methyl acrylate (3.4), butyl acrylate (3.5), butyl methacrylate (3.6), styrene (3.7), acrylic acid (3.8), A Acid (3.9) each 0.10g (accurate to 0.0001g), placed in 100mL volumetric flask, dilute to the mark with ethyl acetate (3.10), charge Shake points.

3.13
standard solution. Pipette appropriate amount of standard stock solution (3.12), diluted to standard working solution with a suitable concentration of methanol (3.11).

The organic phase was 3.14 membrane. 0.22μm.

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4 Instruments and equipment

4.1

Gas chromatography - mass spectrometry with electron impact ionization (EI).

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