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

GB/T 8661-2008

Replacing GB/T 8661-1988

**Plastics -- Styrene/acrylonitrile copolymers -- Determination of
residual acrylonitrile monomer content -- Gas chromatography
method**

塑料 苯乙烯-丙烯腈共聚物残留丙烯腈单体含量的测定 气相色谱法

(English Translation)

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Foreword

This revised standard adopts ISO 4581:1994 test "Plastic --- styrene/acrylonitrile copolymers --- residual acrylonitrile monomer content Set --- GC "(in English).

This standard and ISO 4581:1994 as compared to the main differences are as follows.

--- Instrument "GC" added article note, indicating that you can use to achieve the same separation capillary column (5.1);

--- According to domestic specifications flask, the flask 20mL to 25mL volumetric flask, and the corresponding calculation formula has been modified (8.1).

This standard replaces GB/T 8661-1988 "was measured by gas chromatography acrylonitrile - butadiene - styrene (ABS) resin residual acrylamide Nitrile monomer content ", and GB/T 8661-1988 The main differences are as follows.

--- Extends the scope of this standard applies not only to the determination of acrylonitrile - butadiene - styrene (ABS) resin residual acrylonitrile monomer Content, but also for the determination of styrene - acrylonitrile copolymer (SAN) resin residual acrylonitrile monomer content;

--- Instrument "GC" added article note, indicating that you can use to achieve the same separation capillary column;

--- According to domestic specifications flask, the flask 20mL to 25mL volumetric flask, and the corresponding calculation formula has been modified;

--- Added Appendix A "Determination of acrylonitrile content of less than 3mg/kg of headspace gas chromatography (NPD)." Appendix A of this standard is an informative annex.

The standard proposed by China Petroleum and Chemical Corporation.

This standard by the National Standardization Technical Committee plastic resins and petrochemical products Club (SAC/TC15/SC1) centralized.

This standard was drafted. China PetroChina Lanzhou Petrochemical Company.

1 Scope

This standard specifies the determination by gas chromatography styrene - acrylonitrile copolymers and blends of residual acrylonitrile monomer content approach.

This standard applies to the determination of styrene/acrylonitrile copolymers and blends of residual acrylonitrile monomer content.

2 Normative documents Applications

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequently Some amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Study whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

ISO 2561 Determination of polystyrene and impact polystyrene plastic --- residual styrene monomer --- Gas Chromatography Principle 3 with dimethyl formamide sample was dissolved, the solution was injected into a small volume equipped with a flame ionization detector gas chromatograph to points Isolation and detection of volatile components. Propionitrile or acetonitrile containing a known amount of solvent as internal standard. This method is suitable for the acrylonitrile content not less than 3mg/kg of the case, to make the determination to reach the lower limit of 0.3mg/kg ~ 0.4mg/kg, can be selected A method Appendix. in Appendix A, the sample was dissolved in 1,2-propylene carbonate (PC), and the solution was poured into a NPD gas chromatograph in order propionitrile as an internal standard.

4 Reagents

During the test, use only approved analytical grade reagents. When using the following reagents to be very careful, especially acrylonitrile.

4.1-dimethyl formamide. purity in the retention time of the test substance can not have impurity peaks.

4.2

propionitrile. if they can prove the same results obtained can be used in place of acetonitrile, propionitrile as an internal standard.

4.3

Acrylonitrile. chromatography.

5 Instruments

5.1

Gas chromatograph. equipped with a flame ionization detector gas chromatography.

GC test conditions.

Column. recommended length 1m ~ 2m, an inner diameter of 3mm ~ 4mm stainless steel or glass, with a diameter of 150 μ m ~ 270 μ m (ie, 50 mesh to 100 mesh) PorapakQ1) fill. In order to prevent non-volatile matter in solution into the column, you can take the appropriate method, for example, such as. inlet plus a glass liner or install a replacement handy 5cm long preliminary column (the column with the same packing material).

Column filling method not specified, but the requirements get satisfactory separation, column 24h to aging at 230 °C in the air stream.

If they can prove the same results obtained, the size of the column may be different.

Column (if the column preparation, including preparatory column) Temperature. 160 °C ~ 180 °C.

1) PorapakQ Milipore company is a trade name. This information is provided of this standard provide users with convenient, according to the agreements concerned, you can use the same performance alternative.