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

SN/T 4183-2015

**Determination of relative molecular weight and molecular
weight distribution of polyolefins. High temperature gel
permeation chromatography method**

聚烯烃相对分子量和分子量分布的测定 高温凝胶渗透色谱法

(English Translation)

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4.2 Polystyrene standards. Polystyrene standards of narrow molecular weight distribution (Mw/Mn)

Foreword

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

This standard uses ASTM D6474-1999 (2006) "polyolefin molecular weight distribution and average molecular weight test method high temperature gel penetration the technical route of chromatography.

This standard has the following modifications compared to ASTM D6474-1999 (2006).

--- Chapters 1 and 2 of this standard correspond to Chapters 1 and 2 of ASTM D6474-1999 (2006).

--- Remove Chapter 3, Chapter 5, Chapter 9, Chapter 10, Chapter 17, Chapter 18 and Chapter 3 of ASTM D6474-1999 (2006) Chapter 19.

--- Chapter 3 of this standard corresponds to Chapter 4 of ASTM D6474-1999 (2006).

--- Chapter 4 of this standard adds 4.5, 4.1, 4.2, 4.6, and 4.7 respectively corresponding to 8.1, 8.2 of ASTM D6474-1999 (2006), 12.2, 12.1, 4.3 and 4.4 correspond to 8.3 of ASTM D6474-1999 (2006).

--- Chapter 5 of this standard adds 5.2, 5.1.1 corresponds to Chapter 7 of ASTM D6474-1999 (2006).

--- This standard 5.1.2 corresponds to Chapter 13 of ASTM D6474-1999 (2006).

--- This standard adds 5.1.3 gel permeation chromatograph working conditions.

--- Chapter 6 of this standard corresponds to Chapter 14 of ASTM D6474-1999 (2006).

--- This standard 7.1 corresponds to 15.2 and 12.3 of ASTM D6474-1999 (2006).

--- This standard increases by 7.2.

--- This standard 7.3, 7.4 corresponds to 15.3, 15.6 of ASTM D6474-1999 (2006).

--- Chapter 8 of this standard corresponds to Chapter 16 of ASTM D6474-1999 (2006).

--- This standard adds Chapter 9.

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

This standard was drafted. Shanghai Entry-Exit Inspection and Quarantine Bureau of the People's Republic of China.

1 Scope

This standard specifies the gel permeation chromatography method for determining the relative molecular weight and molecular weight distribution of polyethylene and polypropylene.

This standard applies to the determination of the relative molecular weight and molecular weight distribution of polyethylene and polypropylene.

This standard does not apply to the determination of the relative molecular weight and molecular weight distribution of high pressure low density polyethylene.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 21864-2008 Standard method for the determination of average molecular weight and molecular weight distribution of polystyrene - High-performance size exclusion chromatography Method (ASTMD5296:2005,
StandardtestmethodformolecularweightaveragesandmolecularWeight
Distributionofpolystyrene-Highperformancesize-exclusionchromatography, IDT)

3 Method summary

The polyolefin sample dissolved in the solvent is injected into a column packed with a solid substrate and separated according to the size of the polymer molecules in the solution. when when the molecules are eluted from the column, the molecular weight of the separation is detected and recorded according to its concentration. By correcting the curve, the retention time can be converted to Molecular weight. The average molecular weight and molecular weight distribution are calculated from molecular weight concentration data.

4 Reagents and materials

The reagents used were of analytical grade unless otherwise stated.

4.1 1,2,4-trichlorobenzene.