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

GB/T 36214.5-2018

**Plastics -- Determination of average molecular mass and molecular
mass distribution of polymers using size-exclusion chromatography --
Part 5: Method using light-scattering detection**

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Foreword

GB/T 36214 "Plastics volume exclusion chromatography for the determination of the average molecular weight and molecular weight distribution of polymers" is divided into five parts.

--- Part 1. General;

--- Part 2. Universal Correction Method;

--- Part 3. Low temperature method;

--- Part 4. High temperature method;

--- Part 5. Light scattering method.

This part is the fifth part of GB/T 36214.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the translation method equivalent to ISO 16014-5:2012 "plastic volume exclusion chromatography to determine the average molecular weight of the polymer.

And molecular weight distribution Part 5. Light scattering method.

This part was proposed by the China Petroleum and Chemical Industry Federation.

This part is under the jurisdiction of the National Plastics Standardization Technical Committee (SAC/TC15).

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1 Scope

This part of GB/T 36214 specifies the use of SEC-LS (ie volume exclusion chromatography coupled with a light scattering detector) for the determination of polymers.

A general test method for the average molecular weight and its distribution. Average molecular weight calculated by continuously measuring molecular weight and mass concentration with elution time

Amount and molecular weight distribution. The molecular weight at each elution time is determined directly by the light scattering detector used in conjunction with the concentration sensitive detector, so

SEC-LS is an absolute method.

The application of this method can be found in A.1 of GB/T 36214.1-2018.

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 36214.1-2018 Determination of the average molecular weight and molecular weight distribution of polymers by volume exclusion chromatography

Points. General (ISO 16014-1.2012, IDT)

GB/T 36214.3-2018 Determination of the average molecular weight and molecular weight distribution of polymers by volume exclusion chromatography

Points. Low Temperature Method (ISO 16014-3.2012, IDT)

GB/T 36214.4-2018 Determination of the average molecular weight and molecular weight distribution of polymers by volume exclusion chromatography

Points. High Temperature Method (ISO 16014-4.2012, IDT)

ISO 472 plastic terminology and its definition (Plastics-Vocabulary)

ISO 16014-2 Determination of average molecular weight and molecular weight distribution of polymers by volume exclusion chromatography - Part 2. General

Plastics-Determination of average molecular mass and molecular mass distribution of polymers using size-exclusion chromatography-Part 2. Universal calibration method)

3 Terms and definitions

The following terms and definitions as defined by ISO 472 and GB/T 36214.1-2018 apply to this document.

3.1

Light scattering detection light-scatteringdetection

LS detection

A technique for determining the quality or size of a polymer molecule by measuring its light scattering.

3.2

Refractive index increment

Dn/dc

The rate of change of the refractive index n of the polymer solution as a function of mass concentration c .

Note 1. Also referred to in the literature as "characteristic refractive index increment".

Note 2. The light scattering method usually uses a dn/dc value whose concentration is extrapolated to zero.