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

GB/T 12009.2-2016

Replacing GB/T 12009.2-1989

**Plastics -- Aromatic isocyanates for use in the production of
polyurethane -- Part 2: Determination of hydrolysable chlorine**

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(English Translation)

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Foreword

GB/T 12009 series of standards is divided into five sections.

- GB/T 12009.1 Determination of isocyanate ester of total chlorine content;
- GB/T 12009.2 plastic polyurethane production - Part 2 with aromatic isocyanates. Determination of hydrolyzable chlorine;
- GB/T 12009.3 plastic polymethylene polyphenyl isocyanate ester Part 3. Determination of viscosity;
- GB/T 12009.4 production of polyurethane plastics - Part 4 aromatic isocyanate. radical content of determination;
- GB/T 12009.5 plastic polyurethane production - Part 5 with aromatic isocyanates. Determination of acidity.

This section GB/T 12009 Part 2.

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

This Part replaces GB/T 12009.2-1989 "Determination of isocyanate hydrolyzable chlorine content", compared with the GB/T 12009.2-1989, the main technical changes are as follows.

- The standard name be changed to "the production of polyurethane plastics aromatic isocyanate - Part 2. Determination of hydrolyzable chlorine";
- Increased interference (see Chapter 3);
- Detailed the different sample weight isocyanate (see 811, 821, 1989, version 5.1...);
- Removed 0.05mol/L standard silver nitrate titration solution (1989 edition 3.6);
- Added Appendix A.

This section uses redrafted reference method ISO 15028:2004 "with the production of polyurethane plastics aromatic isocyanate hydrolyzable chlorine measurement" preparation, and ISO 15028:2004 is not equivalent degree of consistency.

This part is proposed by the China Petroleum and Chemical Industry Association.

This part of the National Standardization Technical Committee plastic polyurethane plastics Technical Committee (SAC/TC15/SC8) centralized.

This section is responsible for drafting. Jiangsu Provincial Institute of Chemical Co., Ltd.

Participated in the drafting of this section. Cangzhou Dahua Co., Ltd., Shandong New Materials Co., a Norwich, Gansu silver poly silver Chemical Co., Ltd., Dawn Chemical Research Institute Co., Ltd.

1 Scope

This section GB/T 12009 specifies the method for the production of polyurethanes aromatic isocyanate hydrolysis chlorine measuring potentiometric titration.

This section applies to the determination of toluene diisocyanate, 4,4'-diphenyl methane diisocyanate, polymethylene polyphenyl isocyanate content of esters and other soluble isocyanate hydrolyzable chlorine.

This section does not apply to contain thiocyanate, cyanide, sulfide, bromide, iodide or other and in an acidic solution capable of reducing silver ions and silver ions substances can react.

2 Normative references

The following documents for the application of this document is essential. For cited documents with dates, only the dated edition applies to this document. For undated references, the latest edition (including any amendments) applies to this document.

Preparation of GB/T 601 chemical reagent standard titration solution GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD)

3 Interference

Thiocyanate (ester), cyanide, sulfide, bromide, iodide, and the other capable of reacting with silver ions substances, as well as in the acid solution can reduce silver ion concentration of substances on the measured interference.

Principle 4

Hydrolyzable chlorine mainly from the production process carbamoyl chloride and phosgene dissolved. The reaction of these two substances, and water and an alcohol,

carbamate, carbon dioxide and hydrochloric acid, the hydrochloric acid solution of silver nitrate standard potentiometric titration.

5 Sampling

Since the water-reactive organic isocyanates in the air, paying particular attention to sampling. Conventional sampling method (e.g., sampling in an open vessel), even if the fast sampling, but also can cause insoluble urea-containing sample, and therefore has to be protected with a dry inert gas (e.g. nitrogen, argon or dry air).

NOTE: isocyanate absorbed through the skin or inhaled vapor is dangerous. Provide adequate ventilation and wear protective gloves and glasses.

6 Reagents and solutions

6.1

Method of the reagents and water, unless otherwise specified, analytical grade reagents and in line with GB/T 6682 tertiary water.