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

GB/T 5476-2013

Methods of pretreating ion exchange resins

离子交换树脂预处理方法

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Foreword

This standard is prepared in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 5476-1996 "ion exchange resin pretreatment method", compared with the GB/T 5476-1996, Technical Changes are as follows:

--- Table 1 by a "volume number, mL" read "reagent dose, mL", required to be "eight times resin volume";

--- Table 1 by a "flow, mL/min" to "reagent time" requirements "~ 30min";

--- Table 1, the first operation by the "water flow, mL/min" to "the amount of water, mL", required to be "eight times resin volume";

--- Abolition of the "7 test report." The standard proposed by China Petroleum and Chemical Industry Association. This standard by the National Standardization Technical Committee plastic universal methods and products Branch (TC15/SC4) centralized. This standard is mainly drafted by: Xi'an Thermal Power Research Institute Co., Ltd. Ningbo win glory resin, synthetic resin quality supervision of the State Inspection Center, Chinese Academy of Sinopec Beijing Yanshan of North Branch, Su Qing water treatment engineering company, Zibo Chemical Co., Ltd. East The main drafters of this standard. Cuihuan Fang, Peng Zhang Hua, Hu Jinjiang, Fan Dayong, Cai Xiaohua, Di Jinghua, Wang Yonggui. This standard replaces the standards previously issued as follows:

--- GB/T 5476-1985, GB/T 5476-1996. Ion exchange resin preconditioning

1 Scope

China's national method for pretreating ion exchange resins. A resin as manufactured is not in the state a laboratory test requires, nor the state a plant will run it in: it arrives in the salt form the production process left it in, carrying residual monomer, oligomer and solvent from the polymerisation and whatever the beads have absorbed since. Pretreatment removes those and puts the resin into a defined ionic form, and it is done by cycling the bed through

acid and alkali several times. That cycling does more than clean: it swells and shrinks the beads repeatedly, which is a mechanical proof test that breaks the ones that would have broken later, and it is why a resin's true properties can only be measured after it. Without pretreatment the results depend on the resin's history rather than on the resin. The standard specifies the preconditioning method and applies to strong acid, weak acid, strong base and weak base ion exchange resins.

This standard specifies the method of ion exchange resin preconditioning. This standard applies to strong acid, weak acid, alkali, weakly basic ion exchange resin preconditioning.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 603 chemical reagent in test methods - Preparations with

GB/T 5475 sampling ion exchange resin Laboratory use specifications and test methods

GB/T 6682 Analysis

3 Method summary

Before detecting an ion exchange resin of the performance, first with water backwashed to remove mechanical impurities, and then removed by acid, alkali solution prescribed Insoluble materials, while the resin into a sample having the following ion type.

- Strongly acidic cation exchange resin as sodium;
- Weakly acidic cation exchange resin in the hydrogen form;
- Strong base anion exchange resin is a chlorine-type;
- Weakly basic anion exchange resin to the free amine.

4 Reagents and solutions

4.1 hydrochloric acid solution [$c(\text{HCl}) = 1\text{mol/L}$]. amount of analytically pure hydrochloric acid 86mL, diluted to 1000mL, shake.

4.2 Sodium hydroxide solution [$c(\text{NaOH}) = 1\text{mol/L}$]. Weigh 40g of analytical grade sodium hydroxide was added carefully to dissolve small amount of pure water, dilute Diluted to 1000mL, shake.

4.3 methyl orange indicator solution. according to GB/T 603 formulation.

4.4 phenolphthalein indicator solution. according to GB/T 603 formulation.

4.5 Water. meet three reagent water GB/T 6682 regulations.

5 Instruments and devices

5.1 pretreatment unit Pretreatment apparatus shown in Figure 1.

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