
Plastics — Ion exchange resin —

Part 1:

**Determination of exchange capacity of
acrylic anion exchange resins**



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Published in Switzerland

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Foreword

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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

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Introduction

Following the traditional chemical processes such as distillation and extraction, ion exchange and adsorption technology has also become a typical chemical separation technology, which plays an important role in efficient extraction, concentration and refining. Since the realization of organic synthesis, ion exchange resin has become one of the key materials for exchange and adsorption. At present, they have been widely used in water treatment, environmental protection, petrochemical industry, food and medicine, hydrometallurgy and energy industry, almost involving the core content of the United Nations Sustainable Development Goals (SDGs).

Ion exchange resin is a kind of high polymer organic copolymer, which is composed of insoluble three-dimensional space network framework, functional groups connected to the framework and exchangeable ions with opposite charges. The main features determined by the structure are exchangeable, selective, adsorbable and catalytic. However, even the same resin has different properties in different forms, such as exchange capacity and water content, so a unified method is needed to provide basis for manufacturing, quality supervision, technical exchange, factory inspection and arbitration.

Because of the special structure, acrylic anion exchange resins contain not only strong-base and weak-base groups, but also weak-acid groups, and the content of weak-acid groups directly affects the using effect. This document specifies how to determine the exchange capacity of acrylic anion exchange resins.