

ISO/FDIS 4907-2:~~2022~~2023(E)

ISO TC 61/SC 5/WG 11

Date: ~~2022-11~~2023-01-13

Secretariat: DIN

**Plastics — Ion exchange resin — Part 2: Determination of water content of anion exchange resins in hydroxide form by centrifugation**

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

ISO/FDIS 4907-2

<https://standards.iteh.ai/catalog/standards/sist/5f9a9635-645a-4667-b476-798c250369ff/iso-fdis-4907-2>

Edited DIS - MUST BE USED FOR FINAL DRAFT



iTeh STANDARD PREVIEW  
(standards.iteh.ai)

ISO/FDIS 4907-2

<https://standards.iteh.ai/catalog/standards/sist/5f9a9635-645a-4667-b476-798c250369ff/iso-fdis-4907-2>



iTeh STANDARD PREVIEW  
(standards.iteh.ai)

ISO/FDIS 4907-2

<https://standards.iteh.ai/catalog/standards/sist/5f9a9635-645a-4667-b476-798c250369ff/iso-fdis-4907-2>

© ISO ~~2022~~2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office

CP 401 • Ch. de Blandonnet 8

CH-1214 Vernier, Geneva

Phone: +41 22 749 01 11

Email: [copyright@iso.org](mailto:copyright@iso.org)

Website: ~~www.iso.org~~[www.iso.org](http://www.iso.org)

Published in Switzerland

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

ISO/FDIS 4907-2

<https://standards.iteh.ai/catalog/standards/sist/5f9a9635-645a-4667-b476-798c250369ff/iso-fdis-4907-2>

## Contents

Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions .....	1
4 Principle .....	1
5 Reagents .....	1
6 Apparatus .....	2
7 Samples.....	3
8 Procedure .....	3
8.1 Removal of the external water .....	3
8.2 Determination of water content.....	3
9 Calculation.....	4
10 Test Report.....	4
Annex A (normative) Sampling.....	5
Annex B (informative) Formula and derivation.....	7

[ISO/FDIS 4907-2](https://standards.iteh.ai/catalog/standards/sist/5f9a9635-645a-4667-b476-798c250369ff/iso-fdis-4907-2)

<https://standards.iteh.ai/catalog/standards/sist/5f9a9635-645a-4667-b476-798c250369ff/iso-fdis-4907-2>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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

A list of all parts in the ISO 4907 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).



## Introduction

Anion exchange resins in hydroxide form have poor thermal stability, so direct drying at high temperatures should be avoided. This document solves this problem by form transition process and conversion.

Formulae and derivations are given in Annex B.

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

[ISO/FDIS 4907-2](https://standards.iteh.ai/catalog/standards/sist/5f9a9635-645a-4667-b476-798c250369ff/iso-fdis-4907-2)

<https://standards.iteh.ai/catalog/standards/sist/5f9a9635-645a-4667-b476-798c250369ff/iso-fdis-4907-2>



# Plastics — Ion exchange resin — Part 2: Determination of water content of anion exchange resins in hydroxide form by centrifugation

## 1 Scope

This document specifies test methods by centrifugation of water content of styrene anion exchange resins in hydroxide form.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 4907-3:2023, *Plastics — Ion exchange resin — Part 3: Determination of exchange capacity of anion exchange resins in hydroxide form*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### hydroxide form styrene anion exchange resin

ionic type of styrene anion exchange resins regenerated by sodium hydroxide solution under the conditions specified in this document

Note 1 to entry: It is a general term that includes the strong-base groups existing in hydroxide form and the weak-base groups existing in free amine form.

### 3.2

#### water content

equilibrium water content in *hydroxide form styrene anion exchange resin* (3.1)

## 4 Principle

Remove the external water of the styrene anion exchange resin in hydroxide form absorbed enough water by centrifugation and convert it to chloride form by hydrochloric acid. Wash away the excess acid with anhydrous ethanol. The water content of the sample can be tested by the loss of mass on drying at 105 °C, as well as the increment of mass on the form conversion.