



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

**GB/T 39748.11-2021**

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**Urine-absorbing aids for incontinence - Test methods for  
characterizing polymer-based absorbent materials - Part 11:  
Determination of content of respirable particles**

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## Foreword

GB/T 39748 "Test Method for Characteristics of Polymer Matrix Absorbent Materials for Urine Absorption Aids for Incontinence" is divided into the following parts.

---Part 1.Determination of pH;

---Part 2.Determination of residual monomer content;

---Part 3.Determination of particle size distribution by sieving method;

---Part 4.Determination of moisture content by heating weight loss method;

---Part 5.Determine the water absorption rate by weighing method in normal saline;

---Part 6.Gravimetric method to determine the retention rate of normal saline after centrifugation;

---Part 7.Gravimetric method to determine the amount of liquid absorbed under pressure;

---Part 8.Determination of flow by weighing method;

---Part 9.Determination of density by weighing method;

---Part 10.Potentiometric titration method to determine the amount of extractable polymer;

---Part 11.Determination of the content of inhalable particles.

This part is Part 11 of GB/T 39748.

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

The translation method used in this part is equivalent to the ISO 17190-11.2001  
"Characteristics of Polymer Matrix Absorbent Materials for Incontinence Urine Absorption Aids"

Test methods for sex Part 11.Determination of the content of inhalable particles".

The Chinese documents that have a consistent correspondence with the international documents cited in this section are as follows.

---GB/T 10739-2002 Standard atmospheric conditions for handling and testing of paper, paperboard and pulp samples (equivISO 187.1990);

---GB/T 6682-2008 Analytical laboratory water specifications and test methods (ISO 3696.1987, MOD);

---GB/T 6379.2-2004 Measurement method and accuracy of results (accuracy and precision) Part 2.Determine standard measurement

The basic method of measurement method repeatability and reproducibility (ISO 5725-2.1994, IDT).

## Introduction

The GB/T 39748 series of test methods were originally formulated by the European Disposable Nonwovens Association, without technical modification, and integrated into

ISO 17190 is an international standard published in 11 parts.

These test methods have been used in practice for many years, and their reliability is measured according to the general standards (validity and reproducibility, etc.) of the test methods.

It has been proved to be suitable for the detection of sodium polyacrylate superabsorbent materials in sanitary products, including the material detection of urine absorption aids for incontinent persons

Measurement. These test methods are specifically used for testing materials, and are not applicable or applicable to the testing of finished urine absorption aids.

This part of GB/T 39748 is in accordance with ISO 17191 "Urine absorption aids for incontinence. Polyacrylic acid can be inhaled in the air. Highly absorbent water

Material Sodium Atomic Absorption Spectrometry for the Determination of Dust in the Collection Box" is used together.

Urine absorption aids for incontinence

Testing method of polymer matrix absorbent material properties

## Part 11. Determination of the content of inhalable particles

### 1 Scope

This part of GB/T 39748 specifies the method for determining the content of inhalable particles of polyacrylate (PA) super absorbent resin powder.

Note. The average diameter of commercial polyacrylate super absorbent resin powder particles is 400 $\mu$ m~800 $\mu$ m, which is more than the content of inhalable particles with a diameter of about 10 $\mu$ m

It is much larger, and only a small amount of inhalable particles may appear in the commercial super absorbent resin powder during the production process.

### 2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

ISO 187 Standard atmospheric conditions for the treatment and testing of paper, paperboard and pulp samples (Paper, board and pulps-Standard

atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning

of samples)

ISO 3696 Analytical laboratory water characteristics and test methods (Water for analytical laboratory use-Specification

and test methods)

ISO 5725-2 Measurement methods and accuracy of results (accuracy and precision) Part 2. Determining the repetition of standard measurement methods

The basic method of performance and reproducibility

[Accuracy (trueness and precision) of measurement methods and results-Part

## 2

### Basic method for the determination of repeatability and reproducibility of a standard measurement

method]

ISO 8213 Sampling methods for industrial chemical products, solid chemical products in

different forms, from coarse blocks to powder particles

(Chemical products for industrial use - Sampling techniques - Solid chemical products in the form of particles varying from powder to coarse lumps)

### 3 Terms and definitions

The following terms and definitions apply to this document.

#### 3.1

Respirable particle

The particle diameter is less than 10  $\mu\text{m}$ .

### 4 Principle

Use standard sieves with apertures of 500  $\mu\text{m}$ , 250  $\mu\text{m}$ , and 106  $\mu\text{m}$  to separate super absorbent resin powder with a diameter of less than 106  $\mu\text{m}$

Finally, through the diffraction analysis of the laser particle size analyzer, the inhalable particles with a diameter of less than 10  $\mu\text{m}$  are determined from the samples with a diameter of less than 106  $\mu\text{m}$ .

For the particle ratio, use the wet dispersion method in dry petroleum ether to determine the dispersion of the particles with a diameter of less than 106  $\mu\text{m}$ .