

ICS 85.080
CCS Y 39



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

GB/T 22905-2008

Superabsorbent polymer for diaper

纸尿裤高吸收性树脂

(English Translation)

Issued on: December 30, 2008

Implemented on: September 1, 2009

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine**

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Foreword

Annex A, Annex B, Annex C, Annex D, Annex E, Annex F, Annex G of this Standard are normative.

This Standard was proposed by China Light Industry Federation.

This Standard shall be under the jurisdiction of National Technical Committee on Paper Industry of Standardization Administration of China.

Main drafting organizations of this Standard. China Pulp and Paper Research Institute, Jinan Haoyue Suction Material Co., Ltd., National Paper Quality Supervision and Inspection Center.

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Superabsorbent polymer for diaper

1 Scope

This Standard specifies the requirements, test methods, inspection rules and marks, packaging, transport, storage for superabsorbent polymer of polyacrylate for diaper.

This Standard is applicable to superabsorbent polymer of polyacrylate for all kinds of baby diapers (pieces), adult incontinence products.

2.1 The technical indicators of superabsorbent polymer for diaper shall comply
with the provisions of Table 1 or the contract.

Table 1

Name of indicator	Unit	Requirements
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Residual monomer (acrylic acid)	$\leq$ mg/kg	1800
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Volatile matter content	$\leq$ %	10.0
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pH		4.0~8.0
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Particle size distribution	$< 106\mu\text{m}$ $\leq$ %	10.0 where $< 45\mu\text{m}$ $\leq$ 1.0
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Density	g/cm ³	0.3~0.9
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Absorption	$\geq$ g/g	40.0
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Water retention	$\geq$ g/g	20.0
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Pressure absorption	$\geq$ g/g	10.0
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3.7 The amount of absorption and water retention are determined according to
Annex F.

4.2 Perform sampling evenly from the same batch and not less than 3
packaging bags. The sampling amount shall be 1 kg.

4.3 The product shall be inspected according to this Standard or contract before

leaving the factory. If there is a non-conformity after inspection, the sampling shall be doubled and the unqualified item shall be re-inspected. The results of re-inspection shall be the final inspection results.

4.4 The supplier (hereinafter referred to as the supplier) shall ensure that the

product quality complies with this Standard or the contract. Product quality certificate shall be attached to the delivery.

4.5 The purchaser (hereinafter referred to as the purchaser) has the right to

inspect the product in accordance with this Standard or the contract. If there is any objection to the quality of the product, the supplier shall be notified within one month of arrival (or as specified in the contract). The supplier shall handle it in time. If necessary, the sampling shall be performed by the supplier and the purchaser together for the re-inspection. If the re-inspection result does not comply with this Standard or the contract, it is determined as unqualified and shall be handled by the supplier. If the re-inspection result meets the requirements of this Standard or the contract, it shall be determined as qualified and shall be handled by the purchaser. If the two parties still have disputes over the results of the re-inspection, they shall submit to the higher-level testing institutions approved by both parties for arbitration. The arbitration results shall be as the basis for final determination.

5.1 The product marks, packaging shall be performed according to 5.2 or the contract.

5.2 Products shall be packaged in bags with lined plastic film. The packaging

bag shall have sufficient strength to ensure that it shall not break or fall off during use. Each batch of products shall be accompanied by a quality certificate, indicating manufacturer's name, product name, trademark, date of production, packaging quantity, inspection result and standard number used.

5.3 During product transport, it shall use rainproof, moisture proof, clean
transportation tools. Do not transport together with contaminated items.

5.4 The product shall not be dropped from a height or rolled in place during
handling.

5.5 The product shall be stored in a cool, ventilated and dry warehouse to
prevent the effects of rain, snow and ground moisture.

Annex A

(normative)

Determination of residual monomer (acrylic acid)

A.1 Apparatus and reagents

A.1.1 Beaker (with lid), with a capacity around 300mL.

A.1.2 Magnetic stirrer and stirring magnet.

A.1.3 Funnel and filter paper.

A.1.4 High performance liquid chromatography.

A.1.5 UV detector.

A.1.6 Chromatographic column, of which a programmed temperature of 5.5 min
or more shall be used.

A.1.7 100μL micro syringe.

A.1.8 Filter membrane filter, pore size of 0.45μm, for water system.

A.1.9 Electronic balance, with a resolution of 0.001g.

A.1.10 Saline, with a concentration of 0.9%.

A.1.11 Acrylic, excellent grade pure.

A.1.12 Phosphoric acid (H₃PO₄), excellent grade pure.

A.2 Measuring steps

A.2.1 Extraction of residual monomer (acrylic acid)

Weigh 1 g of specimen, to the nearest of 0.001 g. Pour into beaker. Then add