Document 1) of using a hydrogel water-absorbent polymer having specific saline flow conductivity, performance under pressure and the like; and a method (see Patent Document 2) of using a water-absorbent resin obtained by heating and processing a specific surface crosslinking agent on a specific water-absorbent resin precursor.

In these methods, however, the absorption performance of the absorbent material where a large amount of water-absorbent resin is used is not always satisfied, and there is a tendency that a to-be-absorbed liquid cannot be captured, and that thus the liquid disadvantageously leaks.

PRIOR ART DOCUMENT

Patent Documents

Patent Document 1: Japanese Unexamined Patent Application (Translation of PCT Application), Publication No. H9-510889

Patent Document 2: Japanese Unexamined Patent Application, Publication No. H8-57311

SUMMARY OF THE DISCLOSURE

Problems to be Solved by the disclosure

The present disclosure is proposed in view of the foregoing situations, and has an object to provide a water-absorbent resin in which the absorption performance is better and in which, when the water-absorbent resin is used as an absorbent material, it is possible to enhance the absorption performance under a load, and an object to provide an absorbent article which uses the absorbent material containing

the water-absorbent resin.

Means for Solving the Problems

The present inventors have performed thorough studies to solve the problems described above. Consequently, they have found that a water-absorbent resin whose absorption capacity elasticity index indicated by the product of the storage elastic modulus and the centrifuge retention rate of the water-absorbent resin is equal to or more than a predetermined value is used as an absorbent article, and thus better absorption performance under a load is achieved. Specifically, the present disclosure provides the followings.

(1) In one aspect, the present disclosure provides a water-absorbent resin which is obtained by polymerizing a water-soluble ethylenically unsaturated monomer in the presence of an internal-crosslinking agent and performing post-crosslinking with a post-crosslinking agent, where a water-absorption capacity of physiological saline under a load of 4.14 kPa is 16 mL/g or more, a mass proportion of particles from 150 to 850 μm relative to the whole proportion is 85 mass% or more, moreover a mass proportion of particles from 300 to 400 μm relative to the whole proportion is 20 mass% or more, and an absorption capacity elasticity index represented by formula (I) is 68000 or more.

absorption capacity elasticity index = storage elastic modulus [Pa] × centrifugal retention rate [g/g] ...(I)

(2) The present disclosure provides, in the disclosure according to above (1), the water-absorbent resin, where tanδ

measured by sizing the 300 to 400 μm particles of the water-absorbent resin is 2.00×10^{-2} or less.

(3) In another aspect, the present disclosure provides an absorbent article which is formed with an absorbent material containing the water-absorbent resin according to above (1) or (2).

Effects of the disclosure

The water-absorbent resin of the present disclosure has better absorption performance under a load and can form a gel which has appropriate elasticity at the time of absorption of a liquid. Hence, an absorbent article using an absorbent material containing the water-absorbent resin can effectively reduce the re-wet of a to-be-absorbed liquid over time even in a state where a load is applied by deformation, pressure or the like, and can achieve better absorption performance under a load.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a pattern diagram showing the schematic arrangement of an apparatus for measuring, in a water-absorbent resin, a water-absorption capacity of physiological saline under a load of 4.14 kPa.

PREFERRED MODE FOR CARRYING OUT THE INVENTION

The present invention will be described in detail below.

<<1. Water-absorbent resin>>

A water-absorbent resin according to the present invention has the following properties.