CLAIMS

1. A method for producing water-absorbent resin particles, comprising a polymerization step that includes mixing an oily liquid comprising a hydrocarbon dispersing medium and a surfactant, and an aqueous liquid comprising an aqueous solvent and a water-soluble ethylenically unsaturated monomer, forming a suspension comprising the oily liquid and the aqueous liquid dispersed in the oily liquid, and polymerizing the water-soluble ethylenically unsaturated monomer in the suspension,

wherein the surfactant has an HLB of 6 or greater, and

the temperature of the suspension is kept at 35°C or higher during the period from initial mixing of the oily liquid and the aqueous liquid until complete mixing of the entire amounts.

2. A method for producing water-absorbent resin particles comprising, in order,

a first polymerization step that includes mixing an oily liquid comprising a hydrocarbon dispersing medium and a surfactant, and an aqueous liquid comprising an aqueous solvent and a water-soluble ethylenically unsaturated monomer, forming a suspension comprising the oily liquid and the aqueous liquid dispersed in the oily liquid, and polymerizing the water-soluble ethylenically unsaturated monomer in the suspension to obtain a suspension comprising a water-containing gelated polymer, and

a second polymerization step that includes mixing the suspension at 45°C or higher comprising the water-containing gelated polymer, and a second aqueous liquid comprising an aqueous solvent

and a water-soluble ethylenically unsaturated monomer, and polymerizing the water-soluble ethylenically unsaturated monomer in the suspension in which the second aqueous liquid has been dispersed,

wherein the surfactant has an HLB of 6 or greater, and

the temperature of the suspension is kept at 35°C or higher during the period from initial mixing of the oily liquid and the aqueous liquid until complete mixing of the entire amounts.

3. The method for producing water-absorbent resin particles according to claim 1 or 2, wherein the temperature of the oily liquid that is to be mixed with the aqueous liquid is 50°C or higher.

4. The method for producing water-absorbent resin particles according to any one of claims 1 to 3, wherein the surfactant includes at least one compound selected from the group consisting of sorbitan fatty acid esters, polyglycerin fatty acid esters and sucrose fatty acid esters.

5. The method for producing water-absorbent resin particles according to any one of claims 1 to 4, wherein the water-soluble ethylenically unsaturated monomer includes at least one compound selected from the group consisting of acrylic acid and its salts, methacrylic acid and its salts, and acrylamide.

6. The method for producing water-absorbent resin particles according to any one of claims 1 to 5, wherein the hydrocarbon dispersing medium includes at least one dispersing medium selected from the group consisting of C6-8 aliphatic hydrocarbons and C6-8 alicyclic hydrocarbons.

CLAIMS

1. A method for producing water-absorbent resin particles comprising, in order,

a first polymerization step that includes mixing an oily liquid comprising a hydrocarbon dispersing medium and a surfactant, and a first aqueous liquid comprising an aqueous solvent and a water-soluble ethylenically unsaturated monomer, forming a suspension comprising the oily liquid and the aqueous liquid dispersed in the oily liquid, and polymerizing the water-soluble ethylenically unsaturated monomer in the suspension to obtain a suspension comprising a water-containing gelated polymer, and

a second polymerization step that includes mixing the suspension at 45°C or higher comprising the water-containing gelated polymer, and a second aqueous liquid comprising an aqueous solvent and a water-soluble ethylenically unsaturated monomer, and polymerizing the water-soluble ethylenically unsaturated monomer in the suspension in which the second aqueous liquid has been dispersed,

wherein the surfactant has an HLB of 6 or greater, and

the temperature of the suspension is at 45°C or higher at initial mixing of the oily liquid and the first aqueous liquid,

the temperature of the suspension is from 45°C to 55°C at the time point at which mixing of the entire amounts of the oily liquid and the first aqueous liquid has been completed, and

the temperature of the suspension is not below 45°C between the initial mixing and the completion of the mixing of the entire amounts of

the oily liquid and the first aqueous liquid.

2. The method for producing water-absorbent resin particles according to claim 1, wherein the temperature of the oily liquid that is to be mixed with the aqueous liquid is 50°C or higher.

3. The method for producing water-absorbent resin particles according to claim 1, wherein the surfactant includes at least one compound selected from the group consisting of sorbitan fatty acid esters, polyglycerin fatty acid esters and sucrose fatty acid esters.

4. The method for producing water-absorbent resin particles according to claim 1, wherein the water-soluble ethylenically unsaturated monomer includes at least one compound selected from the group consisting of acrylic acid and its salts, methacrylic acid and its salts, and acrylamide.

5. The method for producing water-absorbent resin particles according to claim 1, wherein the hydrocarbon dispersing medium includes at least one dispersing medium selected from the group consisting of C6-8 aliphatic hydrocarbons and C6-8 alicyclic hydrocarbons.