following constitution is useful.

[0019a] In one aspect, the present disclosure provides a medical device comprising a silicone hydrogel satisfying the following conditions:

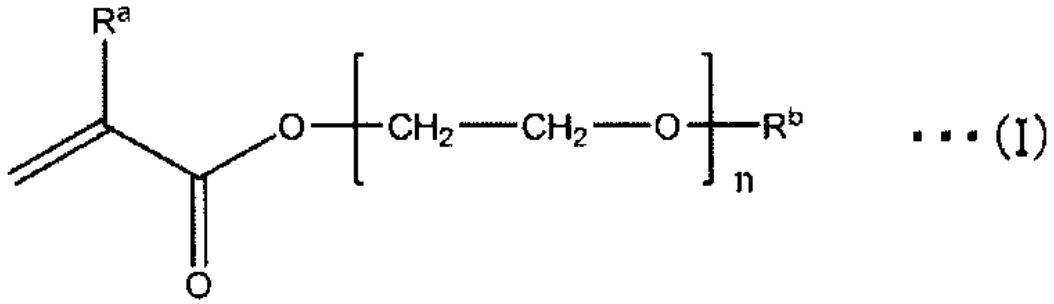
(1) the water content in hydrous state is within the range of 10% by mass to 70% by mass;

(2) the content of silicon atoms with respect to the total mass in dry state is within the range of 8% by mass to 30% by mass; and

(3) the tensile elastic modulus in dry state is within the range of 0.1 MPa to 3.5 MPa;

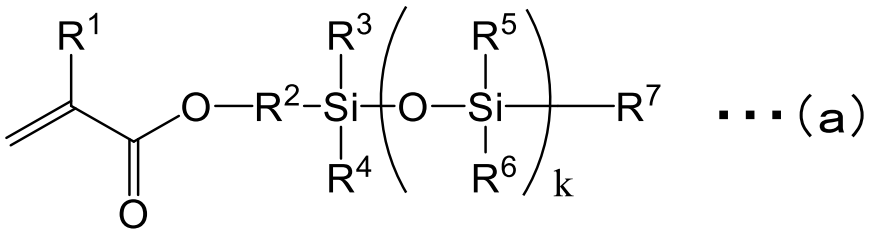
wherein the silicone hydrogel is a polymer comprising:

a repeat unit (A) derived from a monomer represented by General Formula (I):



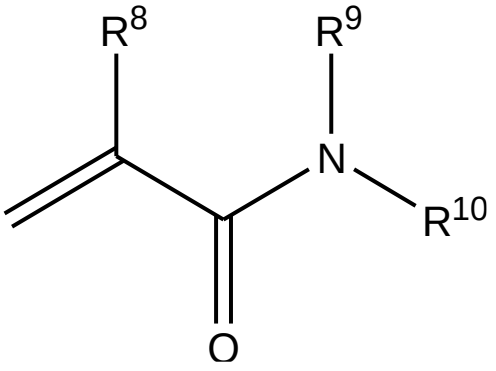
wherein, in General Formula (I), R^a represents hydrogen or a methyl group; R^b represents an alkyl group having from 1 to 15 carbon atoms; and n represents an integer within the range of 1 to 40;

a repeat unit (B) derived from a monomer represented by General Formula (a):



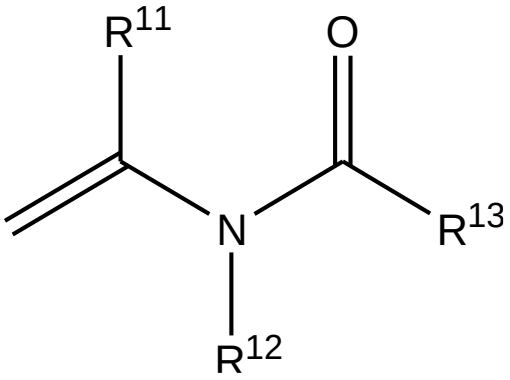
wherein, in General Formula (a), R^1 represents a hydrogen atom or a methyl group; R^2 represents a propylene group; R^3 to R^6 each independently represent a C_1-C_4 alkyl group; R^7 represents a C_1-C_6 alkyl group which is optionally substituted; and k represents an integer of 1 to 200 which optionally has a distribution; and

a repeat unit (C) derived from a monomer represented by General Formula (II-1):



(II-1)

or General Formula (II-2):



(II-2)

wherein, in General Formula (II-1) and General Formula (II-2), R^8 and R^{11} each independently represent a hydrogen atom or a methyl group; R^9 and R^{10}, and R^{12} and R^{13} represent a hydrogen atom(s), and/or a C_1-C_{20} alkyl group(s) which is/are either branched or linear, which optionally contain(s) a cyclic structure, and which is/are optionally substituted; and R^{12} and R^{13} optionally bind to each other to form a ring; and

wherein the medical device comprises:

the repeat unit (A) in an amount within the range of 5% by mass to 50% by mass with respect to the total mass of the silicone hydrogel in dry state;

the repeat unit (B) in an amount within the range of 20% by mass to 70% by mass with respect to the total mass of the silicone hydrogel in dry state; and

the repeat unit (C) in an amount within the range of 5% by mass to 50% by mass with respect to the total mass of the silicone hydrogel in dry state;

with the proviso that the total of the repeat units (A), (B), and (C) does not exceed 100% by mass with respect to the total mass of the silicone hydrogel in dry state.

[0020]

[1] A medical device comprising a silicone hydrogel satisfying the following conditions:

(1) the water content in hydrous state is within the range of 10% by mass to 70% by mass;

(2) the content of silicon atoms with respect to the total mass in dry state is within the range of 8% by mass to 30% by mass; and

(3) the tensile elastic modulus in dry state is within the range of 0.1 MPa to 3.5 MPa.

[0021]

[2] The medical device according to [1], wherein the tensile elastic modulus is within the range of 0.1 MPa to 1.5 MPa.

[3] The medical device according to [1] or [2], comprising a silicone hydrogel having a dry elastic modulus ratio of 1 to 10, wherein the dry elastic modulus ratio is represented by the following Equation 1:

(Equation 1) dry elastic modulus ratio = the tensile elastic modulus in dry state / tensile elastic modulus in hydrous state.

[0022]

[4] The medical device according to any one of [1] to [3], wherein the silicone hydrogel has a zero-stress period of 0.1 second to 2 seconds in hydrous state,

wherein the zero-stress period means a length of time during tensile stress measurement in which an operation of

drawing a test piece having a width of 5 mm and a thickness within the range of 0.05 mm to 0.2 mm held at an inter-supporting-point distance of 5 mm, using a load cell with a maximum load of 2 kg at a rate of 100 mm/minute, until the inter-supporting-point distance becomes 10 mm, and then

CLAIMS

1. A medical device comprising a silicone hydrogel satisfying the following conditions:

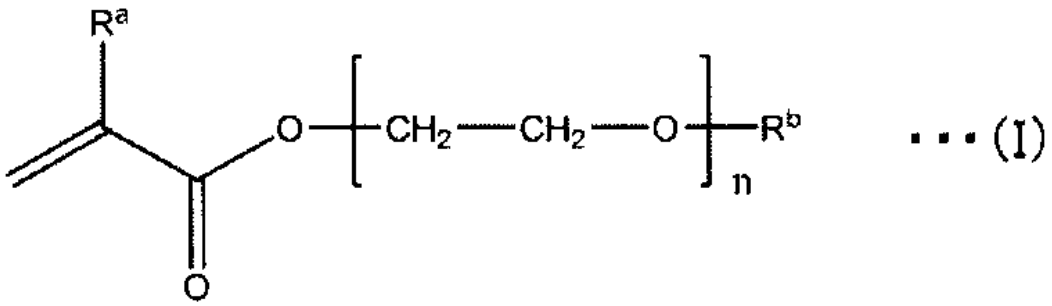
(1) the water content in hydrous state is within the range of 10% by mass to 70% by mass;

(2) the content of silicon atoms with respect to the total mass in dry state is within the range of 8% by mass to 30% by mass; and

(3) the tensile elastic modulus in dry state is within the range of 0.1 MPa to 3.5 MPa;

wherein the silicone hydrogel is a polymer comprising:

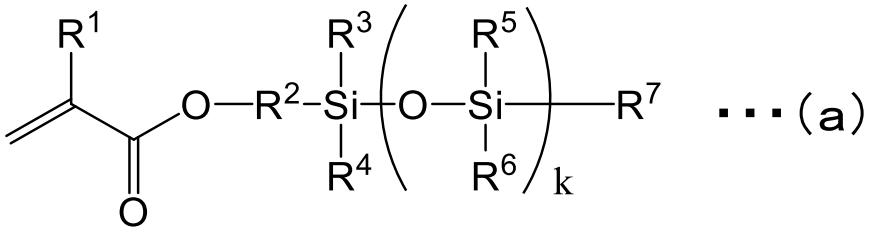
a repeat unit (A) derived from a monomer represented by General Formula (I):



... (I)

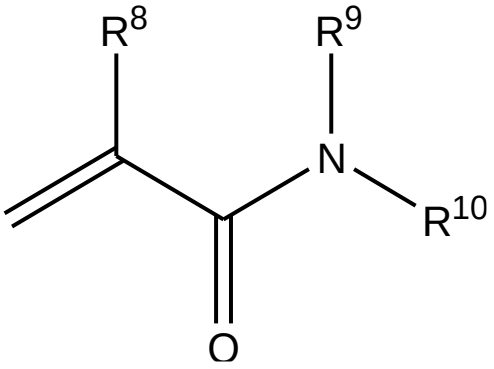
wherein, in General Formula (I), R^a represents hydrogen or a methyl group; R^b represents an alkyl group having from 1 to 15 carbon atoms; and n represents an integer within the range of 1 to 40;

a repeat unit (B) derived from a monomer represented by General Formula (a):



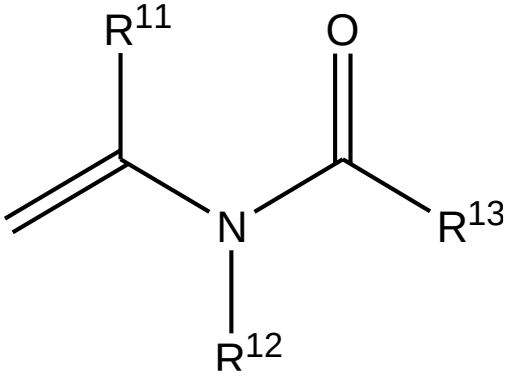
wherein, in General Formula (a), R^1 represents a hydrogen atom or a methyl group; R^2 represents a propylene group; R^3 to R^6 each independently represent a C_1-C_4 alkyl group; R^7 represents a C_1-C_6 alkyl group which is optionally substituted; and k represents an integer of 1 to 200 which optionally has a distribution; and

a repeat unit (C) derived from a monomer represented by General Formula (II-1):



(II-1)

or General Formula (II-2):



(II-2)

wherein, in General Formula (II-1) and General Formula (II-2), R^8 and R^{11} each independently represent a hydrogen atom or a methyl group; R^9 and R^{10}, and R^{12} and

R^{13} represent a hydrogen atom(s), and/or a C_1-C_{20} alkyl group(s) which is/are either branched or linear, which optionally contain(s) a cyclic structure, and which is/are optionally substituted; and R^{12} and R^{13} optionally bind to each other to form a ring; and

wherein the medical device comprises:

the repeat unit (A) in an amount within the range of 5% by mass to 50% by mass with respect to the total mass of the silicone hydrogel in dry state;

the repeat unit (B) in an amount within the range of 20% by mass to 70% by mass with respect to the total mass of the silicone hydrogel in dry state; and

the repeat unit (C) in an amount within the range of 5% by mass to 50% by mass with respect to the total mass of the silicone hydrogel in dry state;

with the proviso that the total of the repeat units (A), (B), and (C) does not exceed 100% by mass with respect to the total mass of the silicone hydrogel in dry state.

2. The medical device according to claim 1, wherein the tensile elastic modulus is within the range of 0.1 MPa to 1.5 MPa.

3. The medical device according to claim 1 or 2, comprising a silicone hydrogel having a dry elastic modulus ratio of 0.1 to 10, wherein the dry elastic modulus ratio is represented by the following Equation 1:

(Equation 1) dry elastic modulus ratio = the tensile elastic modulus in dry state / tensile elastic modulus in hydrous state.

4. The medical device according to any one of claims 1 to 3, wherein the silicone hydrogel has a zero-stress period of 0.1 second to 2 seconds in hydrous state,

wherein the zero-stress period means a length of time during tensile stress measurement in which an operation of

drawing a test piece having a width of 5 mm and a thickness within the range of 0.05 mm to 0.2 mm held at an inter-supporting-point distance of 5 mm, using a load cell with a maximum load of 2 kg at a rate of 100 mm/minute, until the

inter-supporting-point distance becomes 10 mm, and then

reducing the inter-supporting-point distance to 5 mm at the same rate, is repeated three times while obtaining measured values at 20-millisecond intervals,

the length of time being a length of time

from the time point when the stress becomes zero during the second reduction of the inter-supporting-point distance to 5 mm

to the time point when the stress becomes non-zero after starting the third drawing, wherein zero stress means a state with a measured value within the range of -0.05 gf to 0.05 gf.

5. The medical device according to any one of claims 1 to 4, wherein the silicone hydrogel has a tensile elongation at break within the range of 200% to 1000% in hydrous state.

6. The medical device according to any one of claims 1 to 5, wherein the silicone hydrogel has a tensile elastic modulus within the range of 0.1 MPa to 1.5 MPa in hydrous state.

7. The medical device according to any one of claims 1 to 6, wherein at least one of the repeat unit (A) derived from a monomer represented by General Formula (I) and the repeat unit (C) derived from a monomer containing an amide structure has a glass transition temperature of not more than 20°C in a state of a homopolymer.

8. The medical device according to any one of claims 1 to 7, which is any one selected from the group consisting of ophthalmic lenses, endoscopes, catheters, infusion tubes, gas transfer tubes, stents, sheaths, cuffs, tube connectors, access ports, drainage bags, blood circuits, wound dressings, and drug carriers.

9. The medical device according to any one of claims 1 to 8, which is a contact lens.

10. The medical device according to any one of claims 1 to 9, wherein the total of the repeat units (A), (B), and (C) exceeds 50% by mass with respect to the total mass

of the silicone hydrogel in dry state.