Claims

1. A thermoplastic elastomer composition comprising:

100 parts by mass of a hydrogenated block copolymer (a);
from 3 to 50 parts by mass of a polypropylene-based resin (b);
from 5 to 100 parts by mass of a polyphenylene ether resin (c); and from 50 to 200 parts by mass of a non-aromatic softener (d),
wherein
the hydrogenated block copolymer (a) comprises:

a hydrogenated block copolymer (a-1') that is able to be formed by hydrogenating a block copolymer that comprises at least one polymer block A1 comprising a vinyl aromatic hydrocarbon compound monomer unit as a primary component and at least one polymer block B1 comprising a conjugated diene compound monomer unit as a primary component; and
a hydrogenated block copolymer (a-2) that is able to be formed by hydrogenating a block copolymer that comprises at least one polymer block A2 comprising a vinyl aromatic hydrocarbon compound monomer unit as a primary component and at least one polymer block B2 comprising a conjugated diene compound monomer unit as a primary component,
a weight average molecular weight of the hydrogenated block copolymer (a-1') is from 140,000 to 350,000,
a weight average molecular weight of the hydrogenated block copolymer (a-2) is from 50,000 to 120,000, and
a mass ratio ((a-1')/(a-2)) of the hydrogenated block copolymer (a-1') and the hydrogenated block copolymer (a-2) is from 70/30 to 95/5.

2. The thermoplastic elastomer composition according to claim 1, wherein a total content of vinyl aromatic hydrocarbon compound monomer units in the hydrogenated block copolymer (a-2) is from 10 to 25 mass%.

3. The thermoplastic elastomer composition according to claim 1 or claim 2, wherein a vinyl bond content before hydrogenation in the conjugated diene compound monomer units in the hydrogenated block copolymer (a-2) is from 40 to 60 mol.%.

4. The thermoplastic elastomer composition according to any one of claims 1 to 3, wherein heat of crystal fusion (ΔH) of the hydrogenated block copolymer (a-2) is less than 0.5 J/g.

5. The thermoplastic elastomer composition according to any one of claims 1 to 4, wherein a total content of vinyl aromatic hydrocarbon compound monomer units in the hydrogenated block copolymer (a-1') is from 26 to 70 mass%.

6. The thermoplastic elastomer composition according to any one of claims 1 to 5, wherein a vinyl bond content before hydrogenation in the conjugated diene compound monomer units in the hydrogenated block copolymer (a-1') is from 30 to 60 mol.%.

7. The thermoplastic elastomer composition according to any one of claims 1 to 6, wherein
the hydrogenated block copolymer (a-1') has at least two polymer blocks A1 and at least two polymer blocks B1, and at least one of the polymer blocks B1 is located at a polymer end and a content of said polymer block B1 located at a polymer end is from 0.5 to 9 mass%.

8. The thermoplastic elastomer composition according to any one of claims 1 to 7, wherein a reduced viscosity of the polyphenylene ether resin (c) is from 0.15 to 0.70 dL/g.

9. The thermoplastic elastomer composition according to any one of claims 1 to 8, wherein the non-aromatic softener (d) is a non-aromatic softener (d-1) having a kinematic viscosity at 40°C of from 300 to 400 mm^2/sec.

10. The thermoplastic elastomer composition according to any one of claims 1 to 8, wherein the non-aromatic softener (d) is a non-aromatic softener (d-2) having a kinematic viscosity at 40°C of 100 mm^2/sec or less.

11. The thermoplastic elastomer composition according to any one of claims 1 to 8, wherein
the non-aromatic softener (d) is a mixture of a non-aromatic softener (d-1) having a kinematic viscosity at 40°C of from 300 to 400 mm^2/sec and a non-aromatic softener (d-2) having a kinematic viscosity at 40°C of 100 mm^2/sec or less,
a mass ratio ((d-1) / (d-2)) of the non-aromatic softener (d-1) and the non-aromatic softener (d-2) is from 30/70 to 60/40, and
a total content of the non-aromatic softener (d-1) and the non-aromatic softener (d-2) is from 100 to 200 parts by mass relative to 100 parts by mass of the hydrogenated block copolymer (a).

12. The thermoplastic elastomer composition according to any one of claims 1 to 11, wherein
a number average molecular weight Mn(A1') of a block chain of a polymer block A1' that has the greatest number average molecular weight among the polymer blocks A1 is from 5,000 to 60,000,
the number average molecular weight Mn(c) of the polyphenylene ether resin (c) is from 1,000 to 50,000, and

$$Mn(A1') / Mn(c) = 1.2\text{-}3.0.$$

13. The thermoplastic elastomer composition according to any one of claims 1 to 12, wherein a content of the polypropylene-based resin (b) is from 15 to 50 parts by mass relative to 100 parts by mass of the hydrogenated block copolymer (a).

14. The thermoplastic elastomer composition according to any one of claims 1 to 13, wherein an average particle diameter of the polyphenylene ether resin (c) is from 100 to 500 μm.

15. The thermoplastic elastomer composition according to any one of claims 1 to 14, which has a hardness of 40 or lower and a compression set of 35% or lower.

16. The thermoplastic elastomer composition according to any one of claims 1 to 15, further comprising carbon black (e) and/or an inorganic filler (f) at a quantity of from 3 to 100 parts by mass relative to 100 parts by mass of the hydrogenated block copolymer (a).

17. The thermoplastic elastomer composition according to any one of claims 1 to 16, which is partially crosslinked in the presence of an organic peroxide (g).

18. A stopper for a medical container, comprising a sealing material that comprises the thermoplastic elastomer composition according to any one of claims 1 to 17.

19. A medical container comprising the stopper for a medical container according to claim 18.