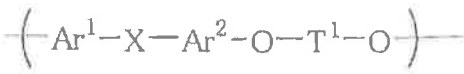
CLAIMS

1. An adhesive composition comprising:

a polymer that contains a unit structure of Formula (1):



Formula (1)

(where X is a sulfonyl group or a carbonyl group; Ar^1 and Ar^2 each are a C_{6-30} arylene group; and T^1 is a fluoroalkylene group, a cyclic alkylene group, an arylene group having a C_{1-10} alkyl group, or a combination of an arylene group optionally having a substituent and a fluoroalkylene group or a cyclic alkylene group).

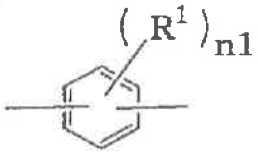
2. The adhesive composition according to claim 1, wherein the arylene group is a phenylene group, a naphthylene group, or an anthrylene group.

3. The adhesive composition according to claim 1 or 2, wherein the polymer is a homopolymer containing one unit structure.

4. The adhesive composition according to claim 1 or 2, wherein the polymer is a copolymer containing at least two unit structures.

5. The adhesive composition according to any one of claims 1 to 4, comprising:

a polymer that contains the unit structure of Formula (1) with Ar^1 and Ar^2 each being a group of Formula (2):

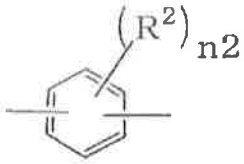


Formula (2)

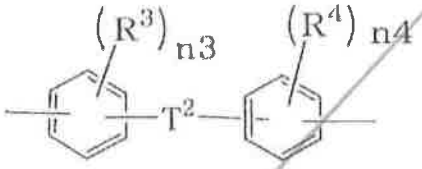
(where R^1 is a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group, an allyl group, an allyloxy group, an amino group, a cyano group, a nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary-carbon structure, a cyclic

alkyl group, or a combination of these, and n1 is an integer of 0 to 4).

6. The adhesive composition according to any one of claims 1 to 5, comprising: a polymer that contains the unit structure of Formula (1) with T^1 being a group of Formula (3), the unit structure of Formula (1) with T^1 being a group of Formula (4), or a combination of the unit structures of Formula (1) with T^1 being a group of Formula (3), and the unit structure of Formula (1) with T^1 being a group of Formula (4):



Formula (3)



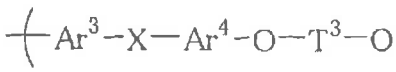
Formula (4)

(where R^2, R^3, and R^4 each are a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group, an allyl group, an allyloxy group, an amino group, a cyano group, a nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary-carbon structure, a cyclic alkyl group, or a combination of these; n2, n3, and n4 each are an integer of 0 to 4; and T^2 is a fluoroalkylene group, a cyclic alkylene group, or a combination of these).

7. The adhesive composition according to claim 6, wherein, in Formula (3), R^2 is tertiary butyl, and n2 is an integer of 1 to 4.

8. The adhesive composition according to any one of claims 1, 2, and 4 to 7, comprising:

a copolymer that, in addition to a unit structure of Formula (1), further contains a unit structure of Formula (5):



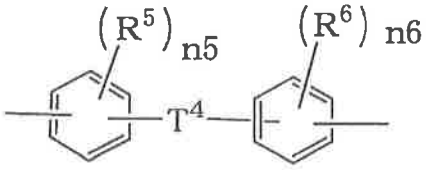
Formula (5)

(where X is a sulfonyl group or a carbonyl group; Ar^3 and Ar^4 each are C_{6-30} arylene group; and T^3 is an alkylene group, a sulfonyl group, a carbonyl group, a C_{6-30} arylene

group, or a combination of these).

9. The adhesive composition according to claim 8, wherein the arylene group is a phenylene group, a naphthylene group, or an anthrylene group.

10. The adhesive composition according to claim 8 or 9, wherein T^3 is a group of Formula (6):



Formula (6)

(where R^5 and R^6 each are a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group, an allyl group, an allyloxy group, an amino group, a cyano group, a nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary-carbon structure, a cyclic alkyl group, or a combination of these; n5 and n6 each are an integer of 0 to 4; T^4 is alkylene group, a sulfonyl group, a carbonyl group, a C_{6-30} arylene group, or a combination of these).

11. The adhesive composition according to any one of claims 1 to 10, wherein the group containing a tertiary-carbon structure is a tertiary butyl group.

12. The adhesive composition according to any one of claims 1 to 11, wherein the polymer has a weight average molecular weight of 500 to 5,000,000.

13. The adhesive composition according to any one of claims 1 to 12, further comprising a cross-linker.

14. The adhesive composition according to any one of claims 1 to 13, further comprising:

solvent, wherein

the adhesive composition has a viscosity of 0.001 to 5,000 Pa·s.

15. A laminate comprising:

at least two adhered articles, and

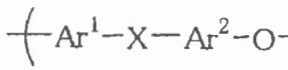
an adhesive layer that is provided between the adhered articles, is formed from the adhesive composition according to any one of claims 1 to 14, and has a thickness of 0.1 μm to 200 μm.

16. The laminate according to claim 15, wherein the adhered articles each are selected from the group consisting of a silicon substrate, a glass substrate, a resin substrate, or a ceramic substrate.

CLAIMS

1. An adhesive composition comprising:

a polymer that contains a unit structure of Formula (1):



Formula (1)

(where X is a sulfonyl group or a carbonyl group; Ar^1 and Ar^2 each are a C_{6-30} arylene group; and T^1 is a fluoroalkylene group, a cyclic alkylene group, an arylene group having a C_{1-10} alkyl group, or a combination of an arylene group optionally having a substituent and a fluoroalkylene group or a cyclic alkylene group), and

a solvent, wherein

a solid content represented as a ratio of residual part formed by removing the solvent from the adhesive composition is 0.1% by mass to 80% by mass.

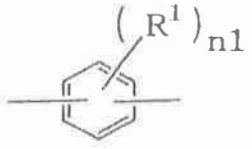
2. The adhesive composition according to claim 1, wherein the arylene group is a phenylene group, a naphthylene group, or an anthrylene group.

3. The adhesive composition according to claim 1 or 2, wherein the polymer is a homopolymer containing one unit structure.

4. The adhesive composition according to claim 1 or 2, wherein the polymer is a copolymer containing at least two unit structures.

5. The adhesive composition according to any one of claims 1 to 4, comprising:

a polymer that contains the unit structure of Formula (1) with Ar^1 and Ar^2 each being a group of Formula (2):



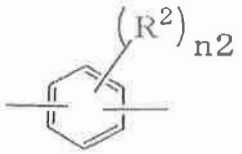
Formula (2)

(where R^1 is a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group, an allyl group, an allyloxy group, an amino group, a cyano group, a nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary-carbon structure, a cyclic alkyl group, or a combination of these, and n1 is an integer of 0 to 4).

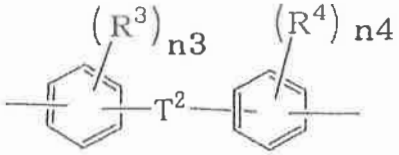
6. The adhesive composition according to any one of claims 1 to 5, comprising:

a polymer that contains the unit structure of Formula (1) with T^1 being a group of

Formula (3), the unit structure of Formula (1) with T^1 being a group of Formula (4), or a combination of the unit structure of Formula (1) with T^1 being a group of Formula (3), and the unit structure of Formula (1) with T^1 being a group of Formula (4):



Formula (3)



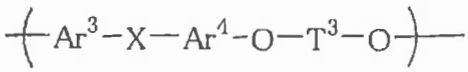
Formula (4)

(where R^2, R^3, and R^4 each are a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group, an allyl group, an allyloxy group, an amino group, a cyano group, a nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary-carbon structure, a cyclic alkyl group, or a combination of these; n2, n3, and n4 each are an integer of 0 to 4; and T^2 is a fluoroalkylene group, a cyclic alkylene group, or a combination of these).

7. The adhesive composition according to claim 6, wherein, in Formula (3), R^2 is tertiary butyl, and n2 is an integer of 1 to 4.

8. The adhesive composition according to any one of claims 1, 2, and 4 to 7, comprising:

a copolymer that, in addition to a unit structure of Formula (1), further contains a unit structure of Formula (5):

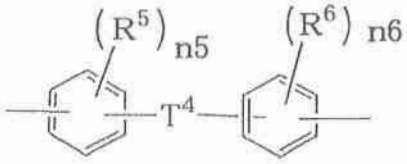


Formula (5)

(where X is a sulfonyl group or a carbonyl group; Ar^3 and Ar^4 each are C_{6-30} arylene group; and T^3 is an alkylene group, a sulfonyl group, a carbonyl group, a C_{6-30} arylene group, or a combination of these).

9. The adhesive composition according to claim 8, wherein the arylene group is a phenylene group, a naphthylene group, or an anthrylene group.

10. The adhesive composition according to claim 8 or 9, wherein T^3 is a group of Formula (6):



Formula (6)

(where R^5 and R^6 each are a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group,

an allyl group, an allyloxy group, an amino group, a cyano group, a nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary-carbon structure, a cyclic alkyl group, or a combination of these; n5 and n6 each are an integer of 0 to 4; T^4 is alkylene group, a sulfonyl group, a carbonyl group, a C_{6-30} arylene group, or a combination of these).

11. The adhesive composition according to any one of claims 1 to 10, wherein the group containing a tertiary-carbon structure is a tertiary butyl group.

12. The adhesive composition according to any one of claims 1 to 11, wherein the polymer has a weight average molecular weight of 500 to 5,000,000.

13. The adhesive composition according to any one of claims 1 to 12, further comprising a cross-linker.

14. The adhesive composition according to any one of claims 1 to 13, further comprising:

solvent, wherein

the adhesive composition has a viscosity of 0.001 to 5,000 Pa·s.

15. A laminate comprising:

at least two adhered articles, and

an adhesive layer that is provided between the adhered articles, is formed from the adhesive composition according to any one of claims 1 to 14, and has a thickness of 0.1 μm to 200 μm.

16. The laminate according to claim 15, wherein the adhered articles each are selected from the group consisting of a silicon substrate, a glass substrate, a resin substrate, or a ceramic substrate.