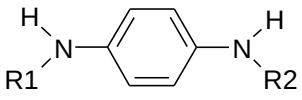
Claims

1. Use of a secondary amine or a mixture of secondary amines as a retarding additive for an adhesive composition comprising one or more (meth)acrylate ester monomers.

2. The use according to claim 1, wherein the secondary amine is a secondary amine comprising more than one secondary amine group.

3. The use according to claim 2, wherein the secondary amine is a secondary aryl amine.

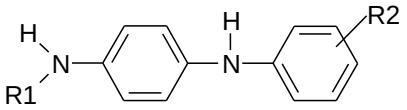
4. The use according to claim 3, wherein the secondary aryl amine is selected from compounds having formula (1)



(1)

wherein R1 and R2 are independently selected from C_6-C_{18} alkyl groups,

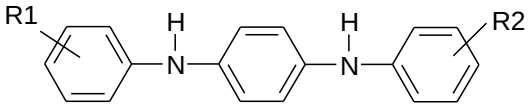
formula (2)



(2)

wherein R1 is selected from C_6-C_{18} alkyl groups and R2 is selected from hydrogen or C_1-C_6 alkyl groups, or

formula (3)



(3)

wherein R1 and R2 are independently selected from hydrogen or C_1-C_6 alkyl groups.

5. The use according to claim 1, wherein the retarding additive is selected from cyclic secondary amines.

6. The use according to claim 5, wherein the cyclic secondary amine is a 2,2,4-trimethyl-1,2-dihydroquinoline polymer.

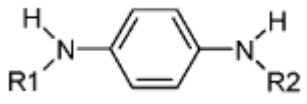
7. The use according to any of the preceding claims, wherein the retarding additive is comprised in an amount of 1 % to 5 % by weight, based on the total weight of the adhesive composition.

8. The use according to any of the preceding claims, wherein the one or more methacrylate ester monomers are comprised in an amount of 10 % to 90 % by weight, based on the total weight of the adhesive composition.

9. An adhesive composition comprising one or more (meth)acrylate ester monomers, a catalyst system and a secondary amine or a mixture of secondary amines as a retarding additive, wherein the secondary amine is a secondary amine comprising more than one secondary amine group.

10. The adhesive composition according to claim 9, wherein the secondary amine is a secondary aryl amine.

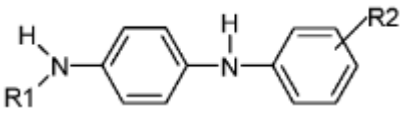
11. The adhesive composition according to claim 10, wherein the secondary aryl amine is selected from compounds having formula (1)



(1)

wherein R1 and R2 are independently selected from C_6-C_{18} alkyl groups,

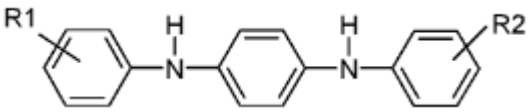
formula (2)



(2)

wherein R1 is selected from C_6-C_{18} alkyl groups and R2 is selected from hydrogen or C_1-C_6 alkyl groups, or

formula (3)



(3)

wherein R1 and R2 are independently selected from hydrogen or C_1-C_6 alkyl groups.

12. The adhesive composition according to any one of the preceding claims, wherein the retarding additive is comprised in an amount of 1% to 5% by weight, based on the total weight of the adhesive composition.

13. The adhesive composition according to any of the preceding claims, wherein the one or more methacrylate ester monomers are comprised in an amount of 10% to 90% by weight, based on the total weight of the adhesive composition.