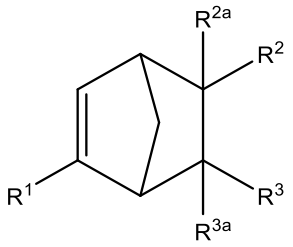
**Claims**

1. A copolymer comprising

a) from 75.0 to 99.0 mol-% of repeating units derived from methyl methacrylate;

b) from 1.0 to 30.0 mol-% of repeating units derived from the compound represented by formula (I)




(I)

wherein the substituents $R^1$, $R^2$, $R^{2a}$, $R^3$ and $R^{3a}$ are independently represented by a hydrogen atom, a hydrocarbon group having from 1 to 12 carbon atoms; a hydroxy group; a hydroxy alkyl group; a carboxylic group; -C(=O)-$NH_2$; -C(=O)-$R^x$; -C(=O)-O-$R^x$; with $R^x$ is C1-12-alkyl or C6-12-cycloalkyl; or $R^2$ and $R^3$ can build together a cyclic moiety; and

c) from 0.0 to 15.0 mol-% of repeating units derived from at least one optional co-monomer c) selected from acrylic acid, methacrylic acid, vinyl aromatic monomers, alkyl acrylates and alkyl methacrylates different from methyl methacrylate;

wherein the weight average molecular weight $M_w$ of the copolymer, determined by GPC, is from 40,000 to 300,000 g/mol, preferably from 50,000 to 200,000 g/mol;

and wherein the sum of the repeating units derived from methyl methacrylate, the compound represented by the formula (I) and the optional co-monomer c) is at least 95.0 mol-%, preferably at least 98.0 mol-%, based on the total copolymer.

2. Copolymer according to Claim 1, wherein the copolymer is obtained by free radical polymerisation.

3. Copolymer according to Claim 1 or 2, wherein the copolymer comprises less than 50 ppm, preferably less than 10 ppm, metals or metal compounds, calculated as metal, based on the total copolymer, and relating to metals selected from transition metals and aluminium.

4. Copolymer according to any of Claims 1 to 3, wherein the copolymer comprises less than 50 ppm, preferably less than 10 ppm, metals or metal compounds, calculated as metal, based on the total copolymer, and relating to the sum of all metals present in the inventive copolymer.

5. Copolymer according to any of Claims 1 to 4, wherein the inventive copolymer comprises less than 50 ppm, preferably less than 10 ppm, metals or metal compounds, calculated as metal, based on the total copolymer, and relating to the sum of all metals present in the copolymer; wherein the haze of the inventive copolymer is lower than 5.0%, preferably lower than 3.0%, wherein the haze is measured at 23 °C on an injection moulded specimen prepared from the inventive copolymer having a thickness of 3.0 mm according to standard ASTM D1003 (2013); and wherein the light transmittance $T_{D65}$ of the inventive copolymer is in the range of 85 to 93 %, more preferably in the range of 87 to 92.5 %, measured at 23 °C on an injection moulded specimen prepared from the inventive copolymer having a thickness of 3.0 mm according to DIN 5033 - 7 (2014).

6. Copolymer according to any of Claims 1 to 5, wherein the compound represented by Formula (I) is 2-norbornene.

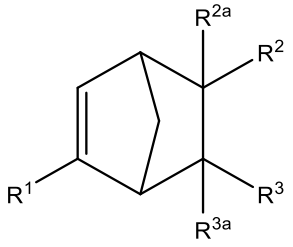
7. Copolymer according to any of Claims 1 to 6, wherein the optional co-monomer c) is at least one monomer selected from methacrylic acid, acrylic acid, methyl acrylate and ethyl acrylate.

8. Copolymer according to any of Claims 1 to 7, wherein the copolymer has a Vicat softening temperature according to ISO 306-B50 (2014) of at least 105°C , preferably of at least 110°C.

9. Copolymer according to any of Claims 1 to 8, wherein the copolymer is a statistical or random copolymer.

10. A process for producing a copolymer according to any of Claims 1 to 9 comprising

(a) a copolymerisation step, in which a monomer mixture, comprising MMA, a monomer of formula (I), and, optionally, at least one optional co-monomer c), undergoes radical copolymerisation to form the copolymer, wherein the reaction temperature in copolymerisation step (a) is above 100 °C, preferably above 120 °C and wherein the monomer mixture comprises at least 10 mol-%, preferably at least 20 mol-%, based on the total monomer mixture, of at least one monomer represented by formula (I)




(I)

wherein the substituents $R^1$, $R^2$, $R^{2a}$, $R^3$ and $R^{3a}$ are independently represented by a hydrogen atom, a hydrocarbon group having from 1 to 12 carbon atoms; a hydroxy group; a hydroxy alkyl group; a carboxylic group; -C(=O)-$NH_2$; -C(=O)-$R^x$; -C(=O)-O-$R^x$; with $R^x$ is C1-12-alkyl or C6-12-cycloalkyl; or $R^2$ and $R^3$ can build together a cyclic moiety.

11. Process according to Claim 10, wherein the reaction temperature in copolymerisation step (a) is in the range from 100 °C to 200 °C, preferably from 120 °C to 180 °C.

12. Process according to Claim 10 or 11, wherein the monomer mixture comprises from 10 to 70 mol-%, preferably from 20.0 to 60.0 mol-%, based on the total amount of polymerizable components, of at least one monomer represented by formula (I).

13. Process according to any of Claims 10 to 12, wherein the monomer mixture in the copolymerisation step (a) has the following composition, based on the total amount of polymerizable components:

a) from 30.0 to 90.0 mol-%, preferably 40.0 to 80.0 mol-%, of methyl methacrylate;
b) from 10.0 to 70.0 mol-%, preferably 20.0 to 60 mol-%, of the compound represented by formula (I); and
c) from 0.0 to 15.0 mol-%, preferably 0.0 to 10 mol-%, of at least one optional co-monomer c) selected from acrylic acid, methacrylic acid, vinyl aromatic monomers, alkyl acrylates and alkyl methacrylates different from methyl methacrylate.

14. Process according to any of Claims 10 to 13, wherein the copolymerisation step (a) is carried out as bulk polymerisation.

15. Process according to any of Claims 10 to 14, wherein the copolymerisation step (a) is followed by
(b) a step of heating the copolymer solution obtained in the polymerisation step (a) to a temperature from 100 °C to 300 °C and
(c) a step of removal of volatile components in a degassing apparatus.

16. Moulding composition comprising a copolymer according to any of Claims 1 to 9 and at least one additive selected from UV absorbers, UV stabilizers, antioxidants, colourants, flow improver, scattering aids, lubricants, demoulding aids or a combination of any of those.

17. Moulded article produced from the moulding composition according to claim 16, wherein the moulded article is selected from display components; lighting components; components in the automotive exterior; components in the automotive interior; components for optoelectronic

devices; components for optical sensors; components for solar cells; optical elements; and components for medical devices having a light source.