claims

1. Method for processing a vinyl aromatic/diene-block copolymer A, obtained by an anionic polymerization of a monomer composition, comprising:

A1: 60-95 wt.-%, based on the total weight of the monomer composition, of at least one vinyl aromatic monomer, and

A2: 5-40 wt.-%, based on the total weight of the monomer composition, of at least one diene monomer,

or a polymer composition P comprising at least one vinyl aromatic/diene-block copolymer A and at least one styrene homopolymer or styrene copolymer;

wherein a polymer melt is formed from the vinyl aromatic/diene-block copolymer A or the polymer composition P and water is dosed to the polymer melt during the processing; and

wherein

the vinyl aromatic/diene-block copolymer A in total comprises less than 10 parts per million (ppm), more preferably less than 5 ppm and in particular less than 2 ppm of acetaldehyde, methacrolein and styrene based on the total amount of vinyl aromatic/diene-block copolymer A; and the vinyl aromatic/diene-block copolymer A further comprises at least one stabilizer, selected from a phenol-based stabilizer or a phosphite-based stabilizer.

2. Method according to claim 1, wherein the vinyl aromatic/diene-block copolymer A in total comprises less than less than 400 ppm, preferably less than 200 ppm, based on the total amount of vinyl aromatic/diene-block copolymer A, of the following volatile organic compounds: acetaldehyde, isobutene, ethanol, acroleine, propanal, methacroleine, 2-methylpentane, 3-methalpentane, 2-methyl-2-butanol, methylcyclopentane, 4-vinylcyclohexene, ethylbenzene, phenylacetylene, styrene, o-xylene, isopropylbenzene, allylbenzene, n-propylbenzene, α-methylstyrene, cyclohexane and n-hexane.

3. Method according to claim 1 or 2, wherein the vinyl aromatic/diene-block copolymer A in total comprises less than 100 ppm, preferably less than 50 ppm, in particular less than 30 ppm, based on the total amount of vinyl aromatic/diene-block copolymer A, of the following volatile organic compounds: acetaldehyde, isobutene, ethanol, acroleine, propanal, methacroleine, 2-methylpentane, 3-methalpentane, 2-methyl-2-butanol, methylcyclopentane, 4-vinylcyclohexene, ethylbenzene, phenylacetylene, styrene, o-xylene, isopropylbenzene, allylbenzene, n-propylbenzene, and α-methylstyrene, i.e. disregarding the presence of cyclohexane and n-hexane.

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4. Method according to any of claims 1 to 3, wherein the at least one vinyl aromatic monomer is selected from styrene, α-methyl styrene and mixtures thereof and the at least one diene monomer is selected from 1,3-butadiene and 2-methyl-1,3-butadiene.

5. Method according to any of claims 1 to 5, wherein the oxygen concentration of the ambient air in contact with the polymer melt is reduced.

6. Method according to claim 5, wherein the polymer melt is provided in a polymer melt discharge device and the oxygen concentration compared to ambient air is reduced by providing the polymer melt discharge device with a sealing.

7. Method according to claim 6, wherein the sealing of the polymer melt discharge device is obtained by continuously feeding of the polymer melt to the polymer melt discharge device.

8. Method according to any of claims1 to 7, wherein a chemically inert fluid, selected from at least one chemical inert solvent, in particular a liquid hydrocarbon, and at least one chemical inert gas, in particular CO_2, nitrogen and/or argon, is fed to the polymer melt discharge device.

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