Claims

1. An aqueous polyorganosiloxane hybrid resin dispersion, comprising:
   - at least one polyorganosiloxane hybrid resin comprising a reaction product of a composition comprising component (A): 5 to 95 parts by weight of one or more polyorganosiloxanes of the general formula

     $R_aSi(OR')_bO_{(4-a-b/2)}$ Formula (I)

     with $0<a<2$, $0<b<2$ and $a+b<4$,

     optionally, component (B): 0-20 parts by weight of one or more linear polyorganosiloxanes of the formula

     $R''O-[R'''_2Si-O]_n-R''$ Formula (II), and

     component (C): 5 to 95 parts by weight of an organic polymer which is a polyester, wherein
     R_a, R', R'' and R''' are each independently an alkyl radical having 1 to 8 carbon atoms or an aromatic radical having 6 to 20 carbon atoms and n is a number in the range from 4 to 250,
   - at least one amphiphilic emulsifier, wherein the emulsifier has an HLB value of 9 to 19 and is a triblock copolymer having a middle block of polypropylene oxide and two terminal blocks of polyethylene oxide or mixtures thereof, and
   - water.

2. The polyorganosiloxane hybrid resin dispersion according to claim 1, wherein the organic polymer comprises a hydroxyl group and/or acidic hydrogen.

3. The polyorganosiloxane hybrid resin dispersion according to claim 1, wherein a residual solvent content is < 5.0% by weight, based on the polysiloxane hybrid resin dispersion.

4. The polyorganosiloxane hybrid resin dispersion according to claim 1, further comprising an additive selected from the group consisting of defoamers, deaerating agents, rheology additives, preservatives, substrate wetting agents, crosslinkers, drying aids, catalysts, antioxidants, anti-skinning agents, anti-settling agents, thickeners, coalescing agents, film-forming aids, fillers, pigments, dispersants and mixtures thereof.

5. The polyorganosiloxane hybrid resin dispersion according to claim 4, wherein the preservatives used are fungicides, bactericides, pesticides, algicides and/or herbicides.

6. The polyorganosiloxane hybrid resin dispersion according to claim 1, wherein an average volume-weighted diameter of the polyorganosiloxane hybrid resin particles, measured according to ISO 13320:2009 is between 0.1-10.0 µm.

7. The polyorganosiloxane hybrid resin dispersion according to claim 1, which has a solids content of 30% by weight-70% by weight, based on the dispersion.

8. A process for preparing aqueous polyorganosiloxane hybrid resin dispersion according to claim 1, comprising:
   - emulsifying a polyorganosiloxane hybrid resin solution comprising an organic solvent with at least one emulsifier or an emulsifier system,
   - adding water, and
   - removing the solvent.

9. The process for preparing aqueous polyorganosiloxane hybrid resin dispersion according to claim 8, wherein an aqueous emulsifier solution or an aqueous emulsifier system solution is used, wherein the conductivity thereof, measured to DIN 53779, is between 10-25 000 µS cm^{-1}.

10. The process for preparing aqueous polyorganosiloxane hybrid resin dispersion according to claim 9, wherein the conductivity of the aqueous emulsifier solution or the aqueous emulsifier system solution is adjusted.

11. The process according to claim 8, wherein the organic solvent or mixture thereof has a boiling point range of 50°C-150°C.

12. The process according to claim 8, wherein the polyorganosiloxane hybrid resin solution has a polyorganosiloxane hybrid resin concentration of 40.0% by weight-95.0% by weight, based on the polyorganosiloxane hybrid resin solution.

13. Coating materials, coatings, paints, substrate coatings, semifinished products, adhesives, inks, sealants, compounding matrices or sizes, comprising:
the polyorganosiloxane hybrid resin dispersion according to claim 1.

14. A substrate coated with a composition comprising a dispersion according to claim 1.