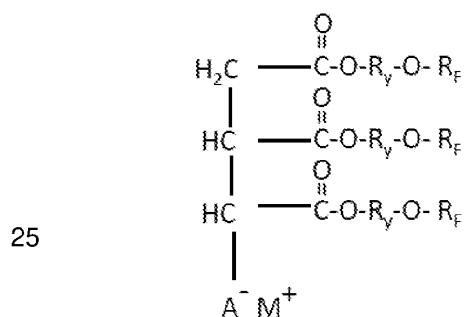


We Claim:

1. A process for polymerizing fluoromonomers in an aqueous dispersion medium to form a fluoropolymer, comprising:
 - a) forming an aqueous solution comprising a first surfactant combination of at least one fluorinated surfactant and at least one non-fluorinated surfactant in a polymerization reactor;
 - b) pressurizing the polymerization reactor with said fluoromonomers;
 - c) initiating a polymerization reaction of said fluoromonomers to form said fluoropolymer;
 - d) propagation of said polymerization reaction, wherein a second surfactant combination of at least one fluorinated surfactant and at least one non-fluorinated surfactant is metered into the or one shot dosed into the reactor; and polymerization reactor;
 - e) termination of said polymerization reaction after consumption of a desired quantity of said fluoromonomers;wherein the molecular weight of the fluoropolymer ranges from 1×10^3 to 9×10^8 , wherein the non fluorinated disulfonate type hydrocarbon containing surfactant comprises 18 to 36 carbon atoms and wherein the proportions between the at least one fluorinated surfactant and the at least one non-fluorinated surfactant within the first surfactant combination are either the same or different from the proportions between the at least one fluorinated surfactant and the at least one non-fluorinated surfactant within the second surfactant combination.
2. The process as claimed in claim 1, wherein the process is devoid of passivating the at least one non-fluorinated surfactant in the first surfactant combination and/ or the second surfactant combination.

3. The process as claimed in claim 1, wherein the second surfactant combination is metered or one shot dosed into the polymerization reactor during the polymerization reaction at a pre-determined rate.
4. The process as claimed in claim 1, wherein the aqueous emulsion
- 5 comprises stabilizing agents such as paraffin wax.
5. The process as claimed in claim 1, wherein the at least one fluorinated surfactant within the first surfactant combination is either the same as or different from the at least one fluorinated surfactant within the second surfactant combination.
- 10 6. The process as claimed in claim 1, wherein the at least one non-fluorinated surfactant within the first surfactant combination is either the same as or different from the at least one non-fluorinated surfactant within the second surfactant combination.
7. The process as claimed in claim 1, wherein the at least one fluorinated
- 15 surfactant has structure represented by formula 1.



Formula 1

Wherein

R_f— is a fully or partially fluorinated linear or branched alkyl group with carbon number 2 to 5.

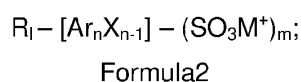
R_y - branched or unbranched alkyl group with carbon number 2 to 6.

A^- contains at least one anionic head group selected from $-COO^-$, $-SO_3^-$, etc.

M^+ is a monovalent cation selected from hydrogen, an alkali metal or ammonium ion.

8. The process as claimed in claim 12, wherein

Non-fluorinated disulfonate type hydrocarbon containing surfactant has a structure represented by Formula 2



Wherein;

R- being an alkyl group consisting of a number of 2 to 20 carbon atoms;

l- being an alkyl group varying from integer from 1 to 2

Ar -being an aryl group;

n- being an integer ranging from 1 to 2;

X- being a bridging between aryl groups Ar, wherein the bridging is CH_2 or

linkage by either an ether or an amine function or N $(C_2H_5)_3$ or carbonyl group $(C=O)$

M^+ being a monovalent cation consisting of hydrogen, an alkali metal, NH_4^+ or combinations thereof; and

m being an integer ranging from 1 to 2.

9 The process as claimed in claim 1, wherein the aqueous emulsion comprises an initiator, for initiating the polymerization process, selected from the group consisting of Disuccinic Acid Peroxide (DSAP), Ammonium Persulphate (APS), redox initiators and combinations thereof.

10. The process as claimed in claim 1, wherein the first surfactant

10 combination comprises the at least one fluorinated surfactant in an amount higher than the at least one non-fluorinated surfactant and/or wherein the second surfactant combination comprises the at least one fluorinated surfactant in an amount smaller than the at least one non-fluorinated surfactant.

15 11. The process as claimed in claim 1, wherein the first surfactant combination and/or the second surfactant combination comprises only one fluorinated and/or only one non-fluorinated surfactant.

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