Claims:

1. Additive composition for control and inhibition of polymerization of styrene, wherein the composition consists of amine and quinone methide, and wherein said amine is selected from the group comprising tri isopropanol amine (TIPA), propoxylated ethylene diamine (PED), triethanol amine (TEA), tributyl amine (TBA), diethanol amine (DEA), mono ethanol amine (MEA), and combination thereof.

~~2. Additive composition as claimed in claim 1, wherein said amine is selected from the group comprising tri isopropanol amine (TIPA), propoxylated ethylene diamine (PED), and triethanol amine (TEA), and combination thereof.~~

~~3. Additive composition as claimed in any one of claims 1 or 2, wherein said amine is tributyl amine (TBA).~~

~~4. Additive composition as claimed in any one of claims 1 to 3, wherein said amine is selected from the group comprising diethanol amine (DEA), and mono ethanol amine (MEA), and combination thereof.~~

~~5~~2. Additive composition for control and inhibition of polymerization of styrene, wherein the composition consists of oxide treated derivative of amine and quinone methide, and wherein said oxide treated derivative of amine is amine selected from a group consisting of ethylene oxide, propylene oxide and butylene oxide treated derivatives of amine.

~~6~~3. Additive composition as claimed in claim ~~5~~2, wherein said oxide treated derivative of amine is ethoxylated derivative of N,N,disec-butyl-para-phenylene diamine (UOP5+EO).

~~7~~4. Additive composition as claimed in any one of claims 1 to ~~6~~3, wherein said composition consists of quinone methide and said amine or oxide treated derivative of amine in weight percent ratio which is selected from the group comprising the weight percent ratio varying from 99:1 to 50:50, from 99:1 to 85:15, from 99:1 to 90:10, and from 95:5 to 90:10.

~~8~~5. Additive composition as claimed in any one of the preceding claims 1 to ~~7~~4, wherein said quinone methide is 4-benzylidene,2,6, di-tert butyl cyclohexa-2,5 dienone.

~~9~~6. A method of preparation of additive composition for control and inhibition of polymerization of styrene as claimed in any one of the preceding claims 1 to ~~8~~5, wherein the method comprises mixing quinone methide and said amine or said oxide treated derivative of amine in a weight percent ratio as claimed in claim ~~7~~4.

~~10~~7. A method of using the additive composition of any one of the preceding claims 1 to ~~8~~5 for control and inhibition of polymerization of styrene, wherein the method comprises adding composition consisting of mixture of quinone methide and said amine or said oxide derivative of amine in a weight percent ratio as claimed in claim ~~7~~4 to the reactor of styrene polymerization.

~~11~~8. ~~A method of using~~ Use of the additive composition of any one of the preceding claims 1 to ~~8~~5 for control and inhibition of polymerization of styrene, wherein the ~~method~~ use comprises separately adding the components a) quinone methide and b) said amine or said oxide derivative of amine of said additive composition in a weight percent ratio as claimed in claim ~~7~~4 to the reactor of styrene polymerization.

~~12~~9. A method as claimed in claim ~~10~~ 7~~or 11~~, wherein said composition is used in an amount which is selected from the group comprising the amount varying from 1 to 1200 ppm, from 1 to 400 ppm, from 150 to 300 ppm, and from 200 to 300 ppm of based on weight of the reacting material in polymerization of styrene.

~~13~~10. A method as claimed in ~~any of preceding~~ claim ~~10~~ 7~~to~~ or ~~12~~9, wherein said composition is used at a temperature range which is selected from the group comprising the temperature varying from 60 to 170^{0}C, and from 90 to 140^{0}C.

11. The use as claimed in claim 8, wherein said composition is used in an amount which is selected from the group comprising the amount varying from 1 to 1200 ppm, from 1 to 400 ppm, from 150 to 300 ppm, and from 200 to 300 ppm of based on weight of the reacting material in polymerization of styrene.

12. The use as claimed in claim 8 or 11, wherein said composition is used at a temperature range which is selected from the group comprising the temperature varying from 60 to 170^{0}C, and from 90 to 140^{0}C.

Claims:

1. Additive composition for control and inhibition of polymerization of styrene, wherein the composition consists of amine and quinone methide, and wherein said amine is selected from the group comprising tri isopropanol amine (TIPA), propoxylated ethylene diamine (PED), triethanol amine (TEA), tributyl amine (TBA), diethanol amine (DEA), mono ethanol amine (MEA), and combination thereof.

2. Additive composition for control and inhibition of polymerization of styrene, wherein the composition consists of oxide treated derivative of amine and quinone methide, and wherein said oxide treated derivative of amine is amine selected from a group consisting of ethylene oxide, propylene oxide and butylene oxide treated derivatives of amine.

3. Additive composition as claimed in claim 2, wherein said oxide treated derivative of amine is ethoxylated derivative of N,N,disec-butyl-para-phenylene diamine (UOP5+EO).

4. Additive composition as claimed in any one of claims 1 to 3, wherein said composition consists of quinone methide and said amine or oxide treated derivative of amine in weight percent ratio which is selected from the group comprising the weight percent ratio varying from 99:1 to 50:50, from 99:1 to 85:15, from 99:1 to 90:10, and from 95:5 to 90:10.

5. Additive composition as claimed in any one of the preceding claims 1 to 4, wherein said quinone methide is 4-benzylidene,2,6, di-tert butyl cyclohexa-2,5 dienone.

6. A method of preparation of additive composition for control and inhibition of polymerization of styrene as claimed in any one of the preceding claims 1 to 5, wherein the method comprises mixing quinone methide and said amine or said oxide treated derivative of amine in a weight percent ratio as claimed in claim 4.

7. A method of using the additive composition of any one of the preceding claims 1 to 5 for control and inhibition of polymerization of styrene, wherein the method comprises adding composition consisting of mixture of quinone methide and said amine or said oxide derivative of amine in a weight percent ratio as claimed in claim 4 to the reactor of styrene polymerization.

8. Use of the additive composition of any one of the preceding claims 1 to 5 for control and inhibition of polymerization of styrene, wherein the use comprises separately adding the components a) quinone methide and b) said amine or said oxide derivative of amine of said additive composition in a weight percent ratio as claimed in claim 4 to the reactor of styrene polymerization.

9. A method as claimed in claim 7, wherein said composition is used in an amount which is selected from the group comprising the amount varying from 1 to 1200 ppm, from 1 to 400 ppm, from 150 to 300 ppm, and from 200 to 300 ppm of based on weight of the reacting material in polymerization of styrene.

10. A method as claimed in claim 7 or 9, wherein said composition is used at a temperature range which is selected from the group comprising the temperature varying from 60 to 170^{0}C, and from 90 to 140^{0}C.

11. The use as claimed in claim 8, wherein said composition is used in an amount which is selected from the group comprising the amount varying from 1 to 1200 ppm, from 1 to 400 ppm, from 150 to 300 ppm, and from 200 to 300 ppm of based on weight of the reacting material in polymerization of styrene.

12. The use as claimed in claim 8 or 11, wherein said composition is used at a temperature range which is selected from the group comprising the temperature varying from 60 to 170^{0}C, and from 90 to 140^{0}C.