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(54) Title: HYDROGENATED MULTIBLOCK LINEAR STYRENE-BUTADIENE COPOLYMERS, PROCESS FOR THEIR PREPARATION AND THEIR USE AS VISCOSITY INDEX-IMPROVER ADDITIVES

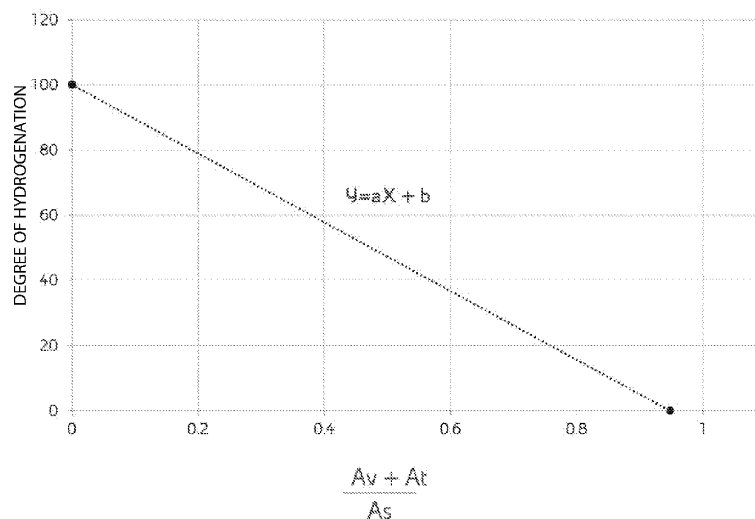


Fig. 1

(57) Abstract: Hydrogenated multiblock linear styrene-butadiene copolymer having general formula (I) or (II):  $(EB)_1-S_1-(EB)_3-S_2-(EB)_2$  (I)  $(EB)_1-S_1-(EB)_2$  (II) wherein: -  $(EB)_1$ ,  $(EB)_2$  and  $(EB)_3$ , represent the hydrogenated polymeric blocks deriving from 1,3-butadiene; -  $S_1$  and  $S_2$  represent the polymeric blocks deriving from styrene; wherein: - in general formula (I) the polymeric blocks  $(EB)_1$  and  $(EB)_2$  deriving from 1,3-butadiene are present in an amount comprised between 56% by weight and 74% by weight, preferably between 64% by weight and 70% by weight, with respect to the total weight of the copolymer, said amount being defined as the sum of  $[(EB)_1 + (EB)_2]$ , the polymeric blocks  $(EB)_3$  deriving from 1,3-butadiene are present in an amount comprised between 1% by weight and

[Continued on next page]

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4% by weight, preferably between 1% by weight and 2% by weight, with respect to the total weight of the copolymer, and the polymeric blocks S<sub>1</sub> and S<sub>2</sub> deriving from styrene are present in an amount comprised between 25% by weight and 40% by weight, preferably between 29% by weight and 34% by weight, with respect to the total weight of the copolymer, said amount being defined as the sum of S<sub>1</sub> + S<sub>2</sub>; - in general formula (II) the polymeric blocks (EB)<sub>1</sub> and (EB)<sub>2</sub> deriving from 1,3-butadiene are present in an amount comprised between 60% by weight and 75% by weight, preferably between 66% by weight and 71% by weight, with respect to the total weight of the copolymer, said amount being defined as the sum of [(EB)<sub>1</sub> + (EB)<sub>2</sub>], and the polymeric block S<sub>1</sub> deriving from styrene is present in an amount comprised between 25% in weight and 40% by weight, preferably between 29% by weight and 34% by weight, with respect to the total weight of the copolymer; - in said polymeric blocks (EB)<sub>1</sub>, (EB)<sub>2</sub> and (EB)<sub>3</sub> deriving from 1,3-butadiene the polybutadiene has a content of units having configuration 1,2 comprised between 45% by weight and 70% by weight, preferably between 50% by weight and 65% by weight, with respect to the total weight of the butadiene units and a content of units having configuration 1,4 comprised between 30% by weight and 55% by weight, preferably between 35% by weight and 50 % by weight, with respect to the total weight of butadiene units. The above-mentioned hydrogenated multiblock linear styrene-butadiene copolymer can advantageously be used as a viscosity index improver (V.I.I.) additive of lubricating oil compositions such as, for example, lubricating oil compositions for passenger cars, both diesel and petrol, or for heavy duty diesel engine, and functional fluids such as, for example, manual or automatic transmission fluids and hydraulic fluids.