

ABSTRACT

LUBRICATING OIL COMPOSITION COMPRISING POLYALKYL (METH)ACRYLATE COPOLYMERS

The present invention relates to copolymers obtainable by polymerizing a monomer composition composed of a) 0% to 40% by weight of one or more ethylenically unsaturated ester compounds of the formula (I) in which R is hydrogen or methyl, R¹ is a linear or branched alkyl radical having 1 to 5 carbon atoms, R² and R³ independently are hydrogen or a group of the formula -COOR', in which R' is hydrogen or an alkyl group having 1 to 5 carbon atoms, b) 10% to 99.9% by weight of one or more ethylenically unsaturated ester compounds of the formula (II) in which R is hydrogen or methyl, R⁴ is a linear or branched alkyl radical having 6 to 15 carbon atoms, R⁵ and R⁶ independently are hydrogen or a group of the formula -COOR', in which R' is hydrogen or an alkyl group having 6 to 15 carbon atoms, c) 0% to 80% by weight of one or more ethylenically unsaturated ester compounds of the formula (III) in which R is hydrogen or methyl, R⁷ is a linear or branched alkyl radical having 16 to 30 carbon atoms, R⁸ and R⁹ independently are hydrogen or a group of the formula -COOR'', in which R'' is hydrogen or an alkyl group having 16 to 30 carbon atoms, d) 0.1% to 30% by weight of one or more ethylenically unsaturated, polar ester compounds of the formula (IV) in which R is hydrogen or methyl, X is oxygen, sulphur or an amino group of the formula -NH- or -NR^a-, in which R_a is an alkyl radical having 1 to 40 carbon atoms, R¹⁰ is a radical which encompasses 2 to 1000 carbon atoms and has at least 2 heteroatoms, R¹¹ and R¹² independently are hydrogen or a group of the formula -COX'R^{10'}, in which X' is oxygen or an amino group of the formula -NH- or -NR^{a'}-, in which R^{a'} is an alkyl radical having 1 to 40 carbon atoms, and R^{10'} is a radical which encompasses 1 to 100 carbon atoms, and e) 0% to 50% by weight of comonomer, based in each case on the total weight of the ethylenically unsaturated monomers.