

ABSTRACT**ADDITIVE CONCENTRATES FOR THE FORMULATION OF
LUBRICATING OIL COMPOSITIONS**

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A lubricant additive concentrate containing (i) dispersant that is the polybutenyl succinimide reaction product of a polyamine and polybutenyl succinic anhydride (PIBSA) derived from polybutene having a number average molecular weight (M_n) of from about 1300 to about 2500 daltons and a terminal vinylidene content of at least about 50% and maleic anhydride via an ene maleation process; (ii) overbased magnesium colloidal detergent having a total base number (TBN) of from about 300 to about 900 mg KOH/g; and (iii) organic friction modifier selected from hydroxyalkyl alkyl amines of C_{14} to C_{24} hydrocarbons, at least one hydroxyalkyl alkyl ether amines of C_{13} to C_{24} hydrocarbons, at least one alkyl ester amine derived from triethanol amine having a C_{13} to C_{24} hydrocarbyl substituent, at least one non-basic, fatty acid amide, or a mixture thereof; wherein the combined mass% of dispersant (i) and overbased magnesium colloidal detergent (ii) in said concentrate is from about 15 to about 50 mass%; the mass ratio of (i):(ii) is from about 1:1 to about 6:1; and the concentrate contains from about 2 to about 10 mass% of organic friction modifier (iii); the remainder of the concentrate being composed of base oil and additives other than dispersant (i), overbased magnesium colloidal detergent (ii) and organic friction modifier (iii).

No Fig.