Claims

1. A lubricant composition, comprising:

at least 60 percent by weight of an oil of lubricating viscosity;

a viscosity index improving amount of 0.001 to 2 percent by weight of a polymer comprising from ~~about~~ 5 mol % to ~~about~~ 20 mol % structural units derived from ethylene, from ~~about~~ 50 mol % to ~~about~~ 90 mol% structural units derived from propylene, and from ~~about~~ 5% to ~~about~~ 30 mol % structural units derived from butylene;

0.01 to 20 percent by weight of a succinimide dispersant; and

0.05 to 5 percent by weight of a detergent comprising an overbased calcium, magnesium, or sodium sulfonate wherein the sulfonate has a total base number in the range from ~~about~~ 250 to ~~about~~ 600.

2. The composition of claim 1 wherein the viscosity index improving amount of the polymer is ~~about 0.~~0.5 to 2 percent by weight.

~~3 to about 5 percent by weight.~~

~~3~~. The composition of ~~any preceding~~ claim~~wherein the viscosity index improving amount of the polymer is about 0.5 to about 2 percent by weight.~~

~~4. The composition of any preceding claim~~1 or 2 wherein the dispersant comprises a polyisobutene substituted succinimide dispersant.

~~5~~4. The composition of any ~~preceding claim wherein the amount of the dispersant is about 0.01 wt % to about 20 wt %,~~

~~6. The composition of any of the preceding claims wherein the overbased sulfonate comprises a calcium, magnesium, or sodium salt.~~

~~7. The composition of any~~one~~of~~ the preceding claims wherein the overbased sulfonate is present in an amount suitable to provide a TBN (total base number) in the range from ~~about~~ 1 to ~~about~~ 10 to the lubricant composition.

~~8.~~ 5. The composition of any ~~of the preceding claims wherein the amount of the overbased sulfonate is about 0.05 wt.% to about 5 wt.%.~~

~~9. The composition of any preceding claim wherein the viscosity index improving amount of the polymer is about 0.5 to about 2 percent by weight, the~~

~~amount of the dispersant is about 0.01 to about 20 percent by weight, and the amount of the overbased sulfonate is about 0.05 to about 5 percent by weight.~~

~~10. The composition of any~~ one of the preceding claims wherein the composition further comprises at least one of an antiwear agent~~.~~

~~11. The composition of any of the preceding claims wherein the composition further comprises,~~ an antioxidant~~.~~

~~12. The composition of any of the preceding claims wherein the composition further comprises,~~ a friction modifier~~.~~

~~13. The composition of any of the preceding claims wherein the composition further comprises,~~ a pour point depressant~~.~~

~~14. The composition of any of the preceding claim wherein the composition further comprises~~ , and an ~~anti-foam~~antifoam agent.

~~15~~6. The composition of any one of the preceding claims wherein the composition further comprises one or more metal deactivators, additional supplemental viscosity modifiers, supplemental detergents, corrosion inhibitors, dispersant viscosity modifiers, extreme pressure agents, demulsifiers, seal swelling agents, or a mixture of two or more thereof.

~~16~~7. The composition of any one of the preceding claims wherein the oil of lubricating viscosity comprises a Group II oil.

~~17~~8. The composition of any one of the preceding claims wherein the oil of lubricating viscosity has a kinematic viscosity at 100°C of less than ~~about~~ 5 cSt, and a viscosity index of less than ~~about~~ 130.

~~18~~9. The composition of any one of the preceding claims wherein the polymer has a number average molecular weight in the range from ~~about~~ 10,000 to ~~about~~ 500,000.

~~19~~10. The composition of any one of the preceding claims wherein the polymer has a Mw/Mn of ~~about~~ 4 or less.

~~20~~11. The composition of any one of the preceding claims wherein the polymer comprises from ~~about~~ 5 to ~~about~~ 10 mol% structural units derived from

ethylene, from ~~about~~ 60 to ~~about~~ 75 mol% structural units derived from propylene, from ~~about~~ 15 to ~~about~~ 30 mol% structural units derived from butylene, a number average molecular weight in the range from ~~about~~ 150,000 to ~~about~~ 250,000, and a Mw/Mn in the range from ~~about~~ 2 to ~~about~~ 2.5.

~~21~~12. The composition of any one of the preceding claims wherein the composition has a sulfur content of ~~about~~ 1% by weight or less~~.~~

~~22. The composition of any of the preceding claims wherein the composition has,~~ a phosphorus content of ~~about~~ 0.2% by weight or less~~.~~

~~23. The composition of any of the preceding claims wherein the composition has,~~ and a sulfated ash content in the range of from ~~about~~ 0.3 to ~~about~~ 1.2% by weight.

~~24. The composition of any of the preceding claims wherein the composition has a chlorine content of up to about 100 ppm.~~

~~25~~13. A method of lubricating an internal combustion engine, comprising: supplying to the engine the lubricant composition of any one of the preceding claims.

~~26~~14. A method of reducing levels of piston deposits in an internal combustion engine, comprising lubricating the engine with the lubricant composition of any one of claims 1 ~~through 23~~to12.

~~27~~15. The use of a viscosity index improving amount of 0.001 to 2 percent by weight of a polymer comprising from ~~about~~ 5 mol % to ~~about~~ 20 mol % structural units derived from ethylene, from ~~about~~ 50 mol % to ~~about~~ 90 mol% structural units derived from propylene, and from ~~about~~ 5% to ~~about~~ 30 mol % structural units derived from butylene,

in a lubricant composition further comprising at least 60 percent by weight of an oil of lubricating viscosity, a0.01 to 20 percent by weight of a succinimide dispersant; and 0.05 to 5 percent by weight of a detergent comprising an overbased calcium, magnesium, or sodium sulfonate wherein the sulfonate has a total base number in the range from ~~about~~ 250 to ~~about~~ 600,

to reduce the level of piston deposits in an engine lubricated by said lubricant composition.