WHAT IS CLAIMED IS:

1. A lubricating oil composition comprising:
    (a) a major amount of an oil of lubricating viscosity, and
    (b) an salicylate compound derived from isomerized normal alpha olefin (NAO) where the isomerized level (I) of the alpha olefin is between from 0.1 to 0.4 and having from 10 to 40 carbon atoms, wherein the TBN of the salicylate compound is at least 600 mg KOH/g on an actives basis;

wherein the lubricating oil composition contains from 0.12 to 0.17 wt.% of calcium and is substantially free of magnesium and the total SOAP content from all the detergents is less than 18 mM;

wherein the isomerization level (I) represents the relative amount of methyl groups (-CH3) (chemical shift 0.3-1.01 ppm) attached to the methylene backbone groups (-CH2-) (chemical shift 1.01-1.38 ppm) and is defined by Equation (1),

$$I = m/(m+n) \qquad \text{Equation (I)}$$

where m is NMR integral for methyl groups with chemical shifts between 0.3 ± 0.03 to 1.01 ± 0.03 ppm, and n is NMR integral for methylene groups with chemical shifts between 1.01 ± 0.03 to 1.38 ± 0.10 ppm.

2. The lubricating oil composition of claim 1, further comprising a zinc dithiophosphate compound.
3. The lubricating oil composition of claim 1, further comprising a molybdenum dithiocarbamate.
4. The lubricating oil composition of claim 1, wherein magnesium is present at less than 50 ppm.
5. The lubricating oil composition of claim 1, wherein the lubricating oil composition reduces corrosion in an engine.
6. The lubricating oil composition of claim 1, wherein the engine is an internal combustion engine equipped with an EGR system.
7. The lubricating oil composition of claim 5, wherein the engine is a hybrid engine, or a turbo GDI engine.
8. A method of lubricating an engine comprising lubricating said engine with a lubricating oil composition comprising:
    (a) a major amount of an oil of lubricating viscosity, and

(b) an salicylate compound derived from isomerized normal alpha olefin (NAO) where the isomerized level (I) of the alpha olefin is between from 0.1 to 0.4 and having from 10 to 40 carbon atoms, wherein the TBN of the salicylate compound is at least 600 mg KOH/gm on an actives basis,

wherein the lubricating oil composition contains from 0.12 to 0.17 wt.% of calcium and is substantially free of magnesium and the total SOAP content from all the detergents is less than 18 mM;

wherein the isomerization level (I) represents the relative amount of methyl groups (-CH3) (chemical shift 0.3-1.01 ppm) attached to the methylene backbone groups (-CH2-) (chemical shift 1.01-1.38 ppm) and is defined by Equation (1),

$$I = m/(m+n) \qquad \text{Equation (I)}$$

where m is NMR integral for methyl groups with chemical shifts between 0.3 ± 0.03 to 1.01 ± 0.03 ppm, and n is NMR integral for methylene groups with chemical shifts between 1.01 ± 0.03 to 1.38 ± 0.10 ppm.

9. The method of claim 8, wherein the engine is a hybrid engine, or a turbo GDI engine.
10. The method of claim 8, wherein the engine is an internal combustion engine equipped with an EGR system.
11. The method of claim 8, wherein the lubricating oil composition reduces corrosion in the engine.
12. The method of claim 8, wherein the lubricating oil composition further comprises a zinc dithiophosphate compound.
13. The method of claim 8, wherein the lubricating oil composition further comprises a molybdenum dithiocarbamate.
14. The method of claim 8, wherein magnesium is present at less than 50 ppm the lubricating oil composition.