

**CLAIMS***What Is Claimed Is:*

1. A hydrocarbon composition comprising: about 30 ppm to about 220 ppm of sulfur; about 0.2 wt.% to about 3 wt.% of aromatics; about 27.8 wt.% to about 99.7 wt.% of paraffins; about 0.0 wt.% to 63.9 wt.% of naphthenes; wherein the hydrocarbon composition demonstrates an increase in lubricant weighted piston deposit merits over a hydrocarbon composition having the same amount of paraffins and naphthenes and less than 30 ppm of sulfur and less than 0.2 wt.% aromatics.

2. A hydrocarbon composition comprising sulfur between about 30 ppm to about 220 ppm, and aromatics between about 0.2 wt.% to about 3 wt.%, wherein the hydrocarbon composition demonstrated an improvement in lubricant oxidation stability over a hydrocarbon composition having the same amount of paraffins and naphthenes and less than 30 ppm of sulfur and less than 0.2 wt.% aromatics.

3. A hydrocarbon composition comprising: a blend of one or more base stocks and a high-sulfur containing material, wherein each base stock has a kinematic viscosity at 100 °C. between about 3.0 cSt and about 12.0 cSt, a viscosity index (VI) between about 80 and about 150, a pour point between about -15 °C. and -60 °C., a NOACK volatility between about 5.0 wt.% and 15.0 wt.%, a sulfur content between about 0 ppm and 100 ppm, aromatics in amount less than 3.0 wt.%, and an NMR branching index between about 20.6 and 38.3, and the high-sulfur containing material comprises between about 0.01 to 4.5 wt.% sulfur.

4. The hydrocarbon composition of claim 3, wherein the high-sulfur containing material further comprises aromatics between about 3 wt.% to 75 wt.%.

5. The hydrocarbon composition of claim 3, wherein the high-sulfur containing material further comprises aromatics having an amount and distribution as determined by ultraviolet (UV) spectroscopy absorptivity of less than about 37.9 l/g-cm @ wavelengths between about 254 nm and about 325 nm.

6. The hydrocarbon composition of claim 3, wherein the hydrocarbon composition comprises between about 30 ppm to about 220 ppm sulfur, and between about 0.2 wt.% to about 3 wt.% aromatics.

7. The hydrocarbon composition of claim 3, wherein the hydrocarbon composition has a weighted piston deposit result between about 4.17 to about 4.85 merits as measured by ASTM D8111 (the Sequence IIH Test).

8. The hydrocarbon composition of claim 3, wherein the hydrocarbon composition has

a viscosity increase at 100 °C. is between about 0.1% and 29% as measured by the ASTM D8111 (Sequence IIH Test).

9. The hydrocarbon composition of claim 3, wherein the hydrocarbon composition has a weighted piston deposit improvement between about 0.2 to about 0.6 merits by ASTM D8111 (the Sequence IIH Test).

10. The hydrocarbon composition of claim 3, wherein the hydrocarbon composition has a viscosity increase at 100 °C. improved by about 70% to about 100% on a relative basis by ASTM D8111 (Sequence IIH Test).

11. A hydrocarbon composition suitable for use as a lubricant comprising a base stock produced by a separation process or a conversion process, wherein the base stock comprises sulfur between about 30 ppm to about 220 ppm and aromatics between about 0.2 wt.% to about 3 wt.%, wherein the lubricant formulated with the hydrocarbon composition has a viscosity increase at 100 °C. is between about 0.1% and 29% and a weighted piston deposit is between about 4.17 to about 4.85 merits, both the viscosity increase and the weighted piston deposit measured by ASTM D8111 (Sequence IIH Test).

12. The hydrocarbon composition of claim 11, wherein the conversion process is catalytic hydrocracking or hydrotreating.

13. The hydrocarbon composition of claim 11, wherein the separation process includes the step of solvent extraction.

14. The hydrocarbon composition of any one of the preceding claims, wherein sulfur is selected from heterocyclic sulfur compounds comprising thiophene and its higher homologs and analogs.

15. The hydrocarbon composition of any one of the preceding claims, wherein the high-sulfur containing material is a refining extract, used oil, or other petroleum streams.

16. The hydrocarbon composition of any one of the preceding claims, wherein the base stock comprises a Group II base stock.

17. The hydrocarbon composition of any one of the preceding claims, wherein the base stock comprises a Group III base stock.

18. The hydrocarbon composition of any one of the preceding claims, wherein the base stock comprises PAO.

19. The hydrocarbon composition of any one of the preceding claims, wherein the aromatics comprise 3+ ring aromatics.

20. The hydrocarbon composition of any one of the preceding claims, wherein the

aromatics comprise 4+ ring aromatics.

21. The hydrocarbon composition of any one of the preceding claims, wherein the base stocks are further blended with at least one additive.

22. The hydrocarbon composition of claim 21, wherein the additive comprises an ILSAC GF-6 additive.

23. The hydrocarbon composition of any one of the preceding claims, wherein the hydrocarbon composition comprises between about 80 wt.% to about 98 wt.% base stock and about 2 wt.% to about 20 wt.% additives.