CLAIMS:

1. A base stock composition comprising a hydroprocessed base stock having a number average molecular weight (M_n) of 600 g/mol to 4000 g/mol, a weight average molecular weight (M_w) of 1000 g/mol to 12000 g/mol, a polydispersity (M_w / M_n) of at least 1.15, a sulfur content of 0.03 wt% or less, an aromatics content of 10 wt% or less, a kinematic viscosity at 100°C of at least 14 cSt, a kinematic viscosity at 40°C of at least 150 cSt, and a viscosity index of 50 to 120, with the proviso that the hydroprocessed base stock is not a polyalphaolefin (PAO).

2. The composition of claim 1, wherein the polydispersity is at least 1.3.

3. The composition of claim 1, wherein the composition has 24.0 wt% or less of epsilon carbons as determined by ^{13}C-NMR.

4. The composition of claim 1, wherein the number average molecular weight (M_n) is 800 g/mol to 4000 g/mol.

5. The composition of claim 1, wherein the weight average molecular weight (M_w) is 1200 g/mol to 12,000 g/mol.

6. The composition of claim 1, wherein the composition has a pour point of 0°C or less.

7. The composition of claim 1, wherein the composition has a glass transition temperature of -50°C or less; or wherein the crystallization temperature is -20°C or less; or a combination thereof.

8. The composition of claim 1, wherein the composition has an aniline point index of at least 1.05.

9. The composition of claim 1, wherein the composition has a density of

0.85 g/cm^3 to 0.91 g/cm^3.

10. The composition of claim 1, wherein the composition has a) a kinematic viscosity at 40°C of at least 200 cSt; b) a kinematic viscosity at 100°C of at least 20 cSt; or c) a combination thereof.

11. The composition of claim 1, wherein the viscosity index is 80 to 120.

12. The composition of claim 1, wherein the viscosity index is 100 to 120.

13. A base stock composition comprising a hydroprocessed base stock having a number average molecular weight (M_n) of 600 g/mol to 4000 g/mol, a weight average molecular weight (M_w) of 1000 g/mol to 12000 g/mol, a polydispersity (M_w / M_n) of at least 1.15, a sulfur content of 0.03 wt% or less, an aromatics content of 10 wt% or less, a kinematic viscosity at 100°C of at least 14 cSt, a kinematic viscosity at 40°C of at least 150 cSt, a viscosity index of 50 to 120, and a saturates content of greater than 90 wt%, or greater than 95 wt%, with the proviso that the hydroprocessed base stock is not a polyalphaolefin (PAO).

14. The composition of claim 13, wherein the composition has 24.0 wt% or less of epsilon carbons as determined by ^{13}C-NMR.

15. The composition of claim 13, wherein the number average molecular weight (M_n) is 800 g/mol to 4000 g/mol.

16. The composition of claim 13, wherein the weight average molecular weight (M_w) is 1200 g/mol to 12000 g/mol.