CLAIMS

What is claimed is:

1. A kerosene boiling range composition comprising a T10 distillation point of 205°C or less, a final boiling point of 300°C or less, a naphthenes to aromatics weight ratio of 3.2 or more, an aromatics content of 4.0 wt% to 18 wt%, and a sulfur content of 47 ppm or more and

wherein the kerosene boiling range composition has not been exposed to hydroprocessing conditions.

2. The kerosene boiling range composition of claim 1, wherein the kerosene boiling range composition comprises an aromatics content of 4.0 wt% to 12 wt%.

3. The kerosene boiling range composition of claim 1, wherein the kerosene boiling range composition comprises an aromatics content of 4.0 wt% to 10 wt%.

4. The kerosene boiling range composition of claim 1, wherein the kerosene boiling range composition comprises a naphthenes to aromatics weight ratio of 4.0 or more.

5. The kerosene boiling range composition of claim 1, wherein the kerosene boiling range composition comprises a cetane index of 31 to 55.

6. The kerosene boiling range composition of claim 1, wherein the kerosene boiling range composition comprises a fuel that satisfies the specifications for a jet fuel in accordance with ASTM D1655.

7. The kerosene boiling range composition of claim 1, wherein the kerosene boiling range composition comprises a pour point of -40°C or lower, or wherein the kerosene boiling range composition comprises a cloud point of -40°C or lower, wherein the kerosene boiling range composition comprises a freeze point of -40°C or lower, or a combination thereof.

8. The kerosene boiling range composition of claim 1, wherein the kerosene boiling range composition comprises a weight ratio of aliphatic sulfur to total sulfur of 0.05 or more.

9. The kerosene boiling range composition of claim 1, wherein the kerosene boiling range composition comprises a weight ratio of n-paraffins to total paraffins of 0.4 or more.

10. The kerosene boiling range composition of claim 1 wherein the kerosene boiling range composition is used as a fuel in an engine, a furnace, a burner, a combustion device, or a combination thereof.

11. The kerosene boiling range composition of claim 1, wherein the kerosene boiling range composition comprises a carbon intensity of 87 g CO_2eq / MJ of lower heating value or less.

12. A kerosene boiling range product comprising:

1.0 wt% to 49 wt% of sustainable aviation fuel in accordance with ASTM D7566; and

51 wt% to 99 wt% of a kerosene boiling range composition, the kerosene boiling range composition comprising a T10 distillation point of 205°C or less, a final boiling point of 300°C or less, a naphthenes to aromatics weight ratio of 3.2 or more, an aromatics content of 4.0 wt% to 18 wt%, and a sulfur content of 47 ppm or more and

wherein the kerosene boiling range composition has not been exposed to hydoprocessing conditions.

13. A method for forming a kerosene boiling range composition, comprising:

fractionating a crude oil comprising a final boiling point of 550°C or more to form at least a kerosene boiling range fraction, the crude oil comprising a naphthenes to aromatics volume ratio of 2.0 or more and a sulfur content of 0.2 wt% or less, the kerosene boiling range composition comprising a T10 distillation point of 205°C or less, a final boiling point of 300°C or less, a naphthenes to aromatics weight ratio of 3.2 or more, an aromatics content of 4.0 wt% to 18 wt%, and a sulfur content of 47 ppm or more and

wherein the kerosene boiling range composition has not been exposed to hydroprocessing conditions.

14. The method of claim 13, wherein the crude oil comprises a paraffins content of 40 vol% or more.

15. The method of claim 13, wherein the kerosene boiling range fraction comprises an aromatics content of 4.0 wt% ti 12 wt%.

16. The method of claim 13, wherein the kerosene boiling range fraction comprises a naphthenes to aromatics weight ratio of 4.0 or more.

17. The method of claim 13, further comprising blending at least a portion of the kerosene boiling range fraction with a sustainable aviation fuel in accordance with ASTM D7566.

18. The method of claim 13, further comprising exposing the kerosene boiling range fraction to clay treatment, acid treatment, mercaptan oxidation, or a combination thereof.