

CLAIMS

What is claimed is:

1. A fuel or fuel blending component comprising a kinematic viscosity at 50°C of 5.0 cSt to 100 cSt, a sulfur content of 150 wppm or less, a density at 15°C of 800 kg/m³ to 900 kg/m³, and an aromatics content of 5.0 wt% to 25 wt%.
2. The fuel or fuel blending component of claim 1, wherein the fuel or fuel blending component comprises a T90 distillation point of 525°C or more, or wherein the fuel or fuel blending component comprises a sulfur content of 50 wppm to 150 wppm, or wherein the density at 15°C is 800 kg/m³ to 860 kg/m³, or a combination thereof.
3. The fuel or fuel blending component of claims 1 or 2, wherein the sulfur content is 5.0 wppm or less, or wherein the nitrogen content is 5.0 wppm or less, or a combination thereof.
4. The fuel or fuel blending component of claims 1-3, wherein the fuel or fuel blending component comprises a T90 distillation point of 525°C or less, or wherein the fuel or fuel blending component comprises a viscosity index is 120 or more, or wherein the fuel or fuel blending component comprises a BMCI of 30 or less, or wherein the fuel or fuel blending component comprises a CCAI of 800 or less, or a combination thereof.
5. A fuel or fuel blending component comprising a density of 930 kg/m³ or less, a kinematic viscosity at 50°C of 100 cSt or more, a sulfur content of 50 wppm to 150 wppm, a BMCI of 50 or less, and a CCAI of 800 or less.
6. The fuel or fuel blending component of claim 5, wherein the fuel or fuel blending component comprises a T10 distillation point of 400°C or more, or wherein the fuel or fuel blending component comprises a T90 distillation point of 550°C or more, or wherein the fuel or fuel blending component comprises a viscosity index of 80 or more, or wherein the density at 15°C is 800 kg/m³ to 900 kg/m³, or a combination thereof.
7. The fuel or fuel blending component of claims 5 or 6, wherein the fuel or fuel blending component comprises a nitrogen content of 100 wppm or less, or wherein the fuel or fuel blending component comprises a T10 distillation point of 350°C or more, or wherein the fuel or fuel blending component comprises a pour point of 0°C or more, or a combination thereof.
8. The fuel or fuel blending component of claims 5-7, wherein the aromatics content is 12 wt% to 25 wt%, or wherein the aromatics content is 5.0 wt% to 15 wt%.
9. A blended fuel or blended fuel blending component comprising 1.0 vol% to 80 vol% of a distillate fraction, a resid fraction, or a combination thereof, and 20 vol% to 99 vol% of a fuel or fuel blending component according to any of claims 1 – 8.

10. The blended fuel or blended fuel blending component of claim 9, wherein the distillate fraction, the resid fraction, or the combination thereof comprises a renewable fraction.
11. The blended fuel or blended fuel blending component of claim 10, wherein the renewable fraction comprises a hydrotreated vegetable oil, a biodiesel, a fatty acid methyl ester, or a combination thereof.
12. A method for forming a fuel or fuel blending component, comprising: fractionating a crude oil comprising a final boiling point of 550°C or more to form at least a resid-containing fraction, the crude oil comprising a naphthenes to aromatics volume ratio of 3.0 or more and a sulfur content of 0.2 wt% or less; and hydrotreating the resid-containing fraction to form a fuel or fuel blending component according to any of claims 1 – 8.
13. The method of claim 12, wherein the resid-containing fraction is hydrotreated prior to the fractionating, the fractionating comprising forming at least the fuel or fuel blending component.
14. The method of claim 12 or 13, further comprising blending the fuel or fuel blending component with a distillate fraction, resid fraction, or combination thereof to form a blended fuel or blended fuel blending component, wherein the blended fuel or blended fuel blending component comprises 1.0 vol% to 80 vol% of the distillate fraction, resid fraction, or combination thereof, and 20 vol% to 99 vol% of the fuel or fuel blending component, the distillate fraction resid fraction or combination thereof optionally comprising a renewable fraction.
15. Use of a fuel, fuel blending component, blended fuel, or blended fuel blending component according to any of claims 1 – 11 as a fuel in a combustion device.