CLAIMS

1. A marine fuel oil composition having a sulfur content of at most 0.50 wt. %, a solvent power (P_o) of at least 0.30, and a *P*-value of at least 1.15; wherein the marine fuel composition comprises:.

2. The marine fuel oil composition of claim 1, further comprising:

(a) 15 wt. % or less of a residuum hydrocarbon component comprising at least one of solvent deasphalted residue, deasphalted oils, atmospheric tower bottoms, and vacuum tower bottoms;

(b) 15 to 65 wt. % of a gas oil component comprising at least one of non-hydrotreated vacuum gas oil, hydrotreated vacuum gas oil, and straight-run gas oil;

(c) 15 to 85 wt. % of an aromatic feedstock component comprising at least one of ethylene cracker bottoms, slurry oil, heavy cycle oil, and light cycle oil; and

(d) 30 wt. % or less of a hydroprocessed hydrocarbon component comprising at least one of waxy light neutral hydrocrackate, diesel, and jet fuel.

3. The marine fuel oil composition of claim 2, wherein the residuum hydrocarbon component is present in an amount of from 5 to 12.5 wt. %.

4. The marine fuel oil composition of claim 2, wherein the gas oil component is present in an amount of from 30 to 60 wt. %.

5. The marine fuel oil composition of claim 2, wherein the aromatic feedstock component is present in an amount of from 30 to 50 wt. %.

6. The marine fuel oil composition of claim 1, further comprising:

(a) 15 wt. % or less of a residuum hydrocarbon component comprising at least one of solvent deasphalted residue, deasphalted oils, atmospheric tower bottoms, and vacuum tower bottoms;

(b) 15 to 70 wt. % of a crude oil;

(c) 25 to 75 wt. % of an aromatic feedstock component comprising at least one of ethylene cracker bottoms, slurry oil, heavy cycle oil, and light cycle oil; and

(d) 25 wt. % or less of a hydroprocessed hydrocarbon component comprising distillate.

~~7~~2. The marine fuel oil composition of claim ~~6~~1, wherein the residuum hydrocarbon component is present in an amount of from 5 to 12.5 wt. %.

3. The marine fuel oil composition of claim 1, wherein the crude oil is present in an amount of from 20 to 30 wt.% or from 40 to 60 wt. %.

~~8. The marine fuel oil composition of claim 6, wherein the aromatic feedstock component is present in an amount of from 30 to 50 wt. %.~~

~~9~~4. The marine fuel oil composition of claim ~~6~~1, wherein the crude oil has one or more of the following properties:

(a) an API gravity of 10° to 22.3°;

(b) a kinematic viscosity of 100 to 250 mm^2/s at 50°C;

(c) a density of 0.9350 to 0.9659 kg/m^3 at 15°C;

(d) a sulfur content of 2000 to 4000 wppm;

(d) a pour point of −10°C to 20°C; and

(e) a flash point of 50°C to 150°C.

~~10. The marine fuel oil composition of claim 6, wherein the crude oil is present in an amount of from 20 to 30 wt.% or from 40 to 60 wt. %.~~

5. The marine fuel oil composition of claim 1, wherein the aromatic feedstock component is present in an amount of from 30 to 50 wt. %.

~~11~~6. The marine fuel oil composition of claim 1, wherein the solvent power is at least 0.45.

~~12~~7. The marine fuel oil composition of claim 1, wherein the *P*-value is at least 1.30.

~~13~~8. The marine fuel oil composition of claim 1, having one or more properties selected from the group consisting of:

(a) a maximum kinematic viscosity at 50°C (ISO 3104) of 10.00 to 700.0 mm^2/s;

(b) a maximum density at 15°C (ISO 3675) of 920 to 1010.0 kg/m^3;

(c) a maximum CCAI of 850 to 870;

(d) a minimum flash point (ISO 2719) of 60.0°C;

(e) a maximum total sediment – aged (ISO 10307-2) of 0.10 wt. %;

(f) a maximum carbon residue – micro method (ISO 10370) of 2.50 to 20.00 wt.%; and

(g) a maximum aluminum plus silicon (ISO 10478) content of 25 to 60 mg/kg.

~~14. A method of reducing the fouling propensity of a residuum hydrocarbon component, the method comprising:~~

~~(a) determining the sulfur content, solvent power, and *P*-value of the residuum hydrocarbon component and at least one other hydrocarbon component;~~

~~(b) selecting the at least one other hydrocarbon component such that a blend of the residuum hydrocarbon component and the at least one other hydrocarbon component has a calculated sulfur content of at most 0.50 wt.%, a calculated solvent power (P_o) of at least 0.30, and a calculated *P*-value of at least 1.15; and~~

~~(c) blending the residuum hydrocarbon component and the at least one other hydrocarbon component in order to prepare a blend of low fouling propensity such~~

~~that the blend has a sulfur content of at most 0.50 wt. %, a solvent power (P_o) of at least 0.30, and a *P*-value of at least 1.15.~~