CLAIMS

1. A fuel oil composition comprising:

(i) a particulate material, in which at least 90% by volume (%v) of the particles are no greater than 20 microns in diameter; and

(ii) a liquid fuel oil;

in which the particulate material is present in an amount of at most 30 by mass (%m) based on the total mass of the fuel oil composition;

in which the particulate material comprises coal, in which the coal comprises sedimentary mineral-derived solid carbonaceous material selected from hard coal, anthracite, bituminous coal, sub-bituminous coal, brown coal, lignite, or combinations thereof, and in which the particulate material comprises less than 5%m of ash content.

2. A fuel oil composition according to Claim 1, in which the coal is microfine coal.

3. A fuel oil composition according to Claim 1 or 2, in which at least 95%v of particles forming the particulate material are no greater than 20 microns in diameter.

4. A fuel oil composition according to Claim 3, in which at least 95%v of particles forming the particulate material are no greater than 10 microns in diameter.

5. A fuel oil composition according to Claim 3, in which at least 98%v of particles forming the particulate material are no greater than 20 microns in diameter.

6. A fuel oil composition according to any preceding claim, in which the particulate material is dewatered prior to combination with the liquid fuel oil.

7. A fuel oil composition according to any preceding claim, in which the particulate material has a water content of less than 15 %m.

8. A fuel oil composition according to Claim 7, in which the particulate material has a water content of less than 5 %m.

9. A fuel oil composition according to Claim 8, in which the particulate material has a water content of less than 2 %m.

10. A fuel oil composition according to any preceding claim, in which the total water content of the fuel oil composition is less than 5 %m.

11. A fuel oil composition according to Claim 10, in which the total water content of the fuel oil composition is less than 2 %m.

12. A fuel oil composition according to any preceding claim, in which the particulate material is subjected to de-ashing or de-mineralising prior to combination with the liquid fuel oil.

13. A fuel oil composition according to any preceding claim, in which the particulate material comprises an ash content of less than 2 %m.

14. A fuel oil composition according to Claim 13, in which the particulate material comprises an ash content of less than 1 %m.

15. A fuel oil composition according to any preceding claim, in which the liquid fuel oil is selected from one of the group consisting of: marine diesel; diesel for stationary applications; kerosene for stationary applications; marine bunker oil; residual fuel oil; and heavy fuel oil.

16. A fuel oil composition according to any preceding claim, in which the liquid fuel oil conforms to the main specification parameter included in one or more of the fuel oil standards selected from the group consisting of: ISO 8217:2010; ISO 8217:2012; ASTM D396; ASTM D975-14; BS 2869:2010, GOST10585-99, GOST10585-75 and equivalent Chinese standards.

17. A fuel oil composition according to any preceding claim, in which the fuel oil composition conforms to the main specification parameter included in one or more of the fuel oil standards selected from the group consisting of: ISO 8217:2010; ISO 8217:2012; ASTM D396; ASTM D975-14; BS 2869:2010, GOST10585-99, GOST10585-75 and equivalent Chinese standards.

18. A fuel oil composition according to any preceding claim, in which the particulate material is present in an amount of at most 20%m based on the total mass of the fuel oil composition.

19. A fuel oil composition according to any preceding claim, in which the particulate material is present in an amount of at least 0.01%m based on the total mass of the fuel oil composition.

20. A fuel oil composition according to any preceding claim, in which the fuel oil composition comprises the particulate material in the form of a dispersion.

21. A fuel oil composition according to Claim 20, in which the dispersion is stable for at least 24 hours.

22. A fuel oil composition according to any preceding claim, in which the fuel oil composition comprises a dispersant additive.

23. A process for the preparation of a fuel oil composition comprising combining a particulate material, in which at least 90%v of the particles within the material are no greater than 20 microns in diameter; and a liquid fuel oil, in which the particulate material is present in an amount of at most 30%m based on the total mass of the fuel oil composition; in which the particulate material comprises coal, in which the coal comprises sedimentary mineral-derived solid carbonaceous material selected from hard coal, anthracite, bituminous coal, sub-bituminous coal, brown coal, lignite, or combinations thereof and in which the particulate material comprises less than 5%m ash content.

24. A process according to Claim 23, in which at least 95%v of particles forming the particulate material are no greater than 20 microns in diameter.

25. A process according to Claim 24, in which at least 95%v of particles forming the particulate material are no greater than 10 microns in diameter.

26. A process according to Claim 24, in which at least 98%v of particles forming the particulate material are no greater than 20 microns in diameter.

27. A process according to any of Claims 23 to 26, in which the particulate material is dispersed in the liquid fuel oil.

28. A process according to Claim 27, in which the dispersion is achieved by a method selected from the group consisting of: high shear mixing; ultrasonic mixing, or a combination thereof.

29. A process according to any of Claims 23 to 28, in which the particulate material is de-watered prior to combination with the liquid fuel oil.

30. A process according to any of Claims 23 to 29, in which the particulate material is subject to de-mineralising prior to combination with the liquid fuel oil.

31. A process according to Claim 30, in which the particulate material is demineralised via froth flotation techniques.

32. A process according to any of Claims 23 to 31, in which the particulate material is subjected to a particle size reduction step prior to combination with the liquid fuel oil.

33. A process according to Claim 32, in which the particle size reduction is achieved by a method selected from the group consisting of: milling, grinding, crushing, high shear grinding or a combination thereof.

34. A process according to any of Claims 23 to 33, in which the liquid fuel oil is selected from one of the group consisting of: marine diesel; diesel for stationary applications; kerosene for stationary applications; marine bunker oil; residual fuel oil; and heavy fuel oil.

35. A process according to any of Claims 23 to 34, in which the liquid fuel oil conforms to the main specification parameter included in one or more of the fuel oil standards selected from the group consisting of: ISO 8217:2010; ISO 8217:2012; ASTM D396; ASTM D975-14; BS 2869:2010, GOST10585-99, GOST10585-75 and equivalent Chinese standards.

36. A method for changing the grade of a liquid fuel oil comprising adding to the fuel oil a particulate material, in which the material is in particulate form, and in which at least 90%v of the particles are no greater than 20 microns in diameter;

in which the particulate material comprises coal, in which the coal comprises sedimentary mineral-derived solid carbonaceous material selected from hard coal, anthracite, bituminous coal, sub-bituminous coal, brown coal, lignite, or combinations thereof, and in which the particulate material comprises less than 5%m of ash content.

37. A method according to Claim 36, in which at least 95%v of particles forming the particulate material are no greater than 20 microns in diameter.

38. A method according to Claim 36, in which at least 95%v of particles forming the particulate material are no greater than 10 microns in diameter.

39. A method according to Claim 36, in which at least 98%v of particles forming the particulate material are no greater than 20 microns in diameter.

40. A method according to any of Claims 36 to 39, in which the grade of the liquid fuel oil conforms to the main specification parameter included in one or more of the fuel oil standards from the group consisting of: ISO 8217:2010; ISO 8217:2012; ASTM D975-14; ASTM D396; BS 2869:2010, GOST10585-99, GOST10585-75 and equivalent Chinese standards.

41. A method of adjusting the flash point of a liquid fuel oil, in which the method comprises combining a liquid fuel oil with particulate material;

in which the particulate material comprises coal, in which the coal comprises sedimentary mineral-derived solid carbonaceous material selected from hard coal, anthracite, bituminous coal, sub-bituminous coal, brown coal, lignite, or combinations thereof, and in which the particulate material comprises less than 5%m of ash content; and

in which the fuel oil is selected from the group consisting of: marine diesel; diesel for stationary applications, kerosene for stationary applications, marine bunker oil; residual fuel oil; and heavy fuel oil.

42. A method according to Claim 41, in which at least 95%v of particles forming the particulate material are no greater than 20 microns in diameter.

43. A method according to Claim 41, in which at least 95%v of particles forming the particulate material are no greater than 10 microns in diameter.

44. A method according to Claim 41, in which at least 98%v of particles forming the particulate material are no greater than 20 microns in diameter.