CLAIMS

1. A composition comprising a diesel fuel and at least one acrylamide polymer prepared by polymerizing:

~~(a)~~ a (meth)acrylamide monomer ~~to yield a homopolymer; or~~

~~(b) a (meth)acrylamide monomer comprising (meth)acrylamide~~ and a (meth)acrylate monomer to yield a heteropolymer~~.~~; wherein the acrylamide polymer comprises a heteropolymer prepared from a (meth)acrylate monomer comprising tert-butyl acrylate;

~~2.~~ wherein the at least one polymer is present in the diesel fuel in an amount from 0.1 ppm to 3000 ppm by weight, based on a total weight of the composition.

2. The composition of claim 1, ~~wherein the~~further comprising at least one ~~acrylamide~~acrylate polymer ~~is~~prepared by polymerizing one or more (meth)acrylate monomers comprising a ~~homopolymer~~C_1 to C_{30} alkyl-substituted (meth)acrylate.

3. ~~3.~~ The composition of claim ~~1~~2, wherein the acrylate polymer is at least one of a copolymer, block polymer, random polymer, terpolymer, or combinations thereof.

4. The composition of claim 2 or 3, comprising:

(i) from 1 wt% to 99 wt% (or 5 wt% to 95 wt%) of the acrylamide polymer; and

(ii) from 99 wt% to 1 wt% (or 95 wt% to 5 wt%) of the acrylate polymer.

5. The composition of any claim 1 to 4, wherein the (meth)acrylamide monomer comprises a mono- or di-C_1 to C_{27} alkyl-substituted (meth)acrylamide.

6. ~~4.~~ The composition of any claim 1 to ~~3~~5, wherein the (meth)acrylamide monomer comprises a mono- or di-C_1 to C_{12} alkyl-substituted (meth)acrylamide.

7. ~~5.~~ The composition of any claim 1 to 6, ~~4, wherein the (meth)acrylate monomer comprises a C_1 to C_{30} alkyl-substituted (meth)acrylate.~~

~~6. The composition of any claim 1 to 5, wherein the at least one acrylamide polymer is a heteropolymer.~~

~~7. The composition of any claim 1 to 6, wherein the acrylamide polymer comprises a heteropolymer prepared from a (meth)acrylate monomer comprising tert-butyl acrylate ("TBAT").~~

~~8. The composition of any claim 1 to 7~~, wherein the (meth)acrylamide monomer comprises N,N-diethylacrylamide ("NNDEAD"), N-(tertbutyl)acrylamide ("NTBAD"), or combinations thereof.

8. ~~9.~~ The composition of any claim 1 to ~~8~~7, wherein the at least one polymer has a weight average molecular weight ("M_w") of from 10,000 to 350,000 Da.

9. ~~10.~~ The composition of any claim 1 to ~~9~~8, wherein the at least one polymer has a M_w of from 30,000 to 200,000 Da.

10. ~~11.~~ The composition of any claim 1 to ~~10, wherein the at least one polymer has a concentration of 0.1 ppm to 3000 ppm by weight, based on a total weight of the composition.~~

~~12. The composition of any claim 1 to 11, wherein the at least one polymer has a concentration of 1 ppm to 100 ppm by weight, based on a total weight of the composition.~~

~~13. The composition of any claim 1 to 12, wherein the foam in the composition is reduced as compared to a diesel fuel without the at least one polymer.~~

~~14. A composition comprising at least one acrylamide polymer prepared by polymerizing:~~

~~(a) a (meth)acrylamide monomer to yield a homopolymer; or~~

~~(b) a (meth)acrylamide monomer and a (meth)acrylate monomer to yield a heteropolymer.~~

~~15. The composition of claim 14, further comprising at least one acrylate polymer prepared by polymerizing one or more (meth)acrylate monomers comprising a C_1 to C_{30} alkyl substituted (meth)acrylate.~~

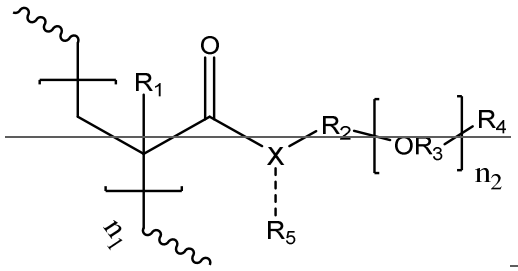
~~16. The composition of claim 15, wherein the acrylate polymer is at least one of a copolymer, block polymer, random polymer, terpolymer, or combinations thereof.~~

~~17. The composition of claim 15 or 16, comprising:~~

~~(i)~~ 9from 1 wt% to 99 wt% (or 5 wt% to 95 wt%) of the acrylamide polymer; and

~~(ii) from 99 wt% to 1 wt% (or 95 wt% to 5 wt%) of the acrylate polymer.~~

~~18. The composition of any claim 1 to 17, wherein the at least one acrylamide polymer has units with the structure of formula (I):~~



~~(I)~~

~~wherein R^1 is H or CH_3; R^2 is a C_1 to C_{10} linear or branched hydrocarbyl group; R^3 is a C_1 to C_4 linear or branched hydrocarbyl group; R^4 is H, OH, or CH_3; n_1 is an integer ranging from 120 to 3000; X is O or N; R_5 is only present if X is N and can be H, a C_1 to C_{10} linear or branched hydrocarbyl group, or when taken together with R_2, may form a saturated or unsaturated ring containing 5 to 6 carbon atoms; and n_2 is an integer ranging from 0 to 3.~~

~~19. The composition of claim 18, wherein the acrylamide polymer is a homopolymer and X is N.~~

~~20. The composition of claim 18 or 19, wherein the acrylamide polymer is a heteropolymer having at least two polymer moieties and wherein for at least one polymer moiety X is N and for at least one polymer moiety X is O.~~

~~21. The composition of any claim 18 to 20, wherein R^2 and/or R^3 is branched.~~

~~22. The composition of any claim 18 to 21, wherein R^2 is linear and R^3 is branched.~~

~~23. The composition of any claim 14 to 22, wherein the (meth)acrylamide monomer comprises a mono- or di-C_1 to C_{27} alkyl-substituted (meth)acrylamide.~~

~~24. The composition of any claim 14 to 23, wherein the (meth)acrylamide monomer comprises a mono- or di-C_1 to C_{12} alkyl-substituted (meth)acrylamide.~~

~~25. The composition of any claim 14 to 24, wherein the acrylamide polymer comprises at least one heteropolymer prepared by polymerizing a (meth)acrylamide monomer and a (meth)acrylate monomer.~~

~~26. The composition of any claim 14 to 25, wherein the acrylamide polymer comprises a heteropolymer prepared from a (meth)acrylate monomer comprising tert-butyl acrylate ("TBAT").27. The composition of any claim 14 to 26, wherein the (meth)acrylamide monomer comprises N,N-diethylacrylamide ("NNDEAD"), N (tertbutyl)acrylamide ("NTBAD"), or combinations thereof.~~

~~27. The composition of any claim 14 to 26, wherein the at least one polymer has a weight average molecular weight ("M_w") of from 10,000 to 350,000 Da.~~

~~28. The composition of any claim 14 to 27, wherein the at least one polymer has a M_w of from 30,000 to 200,000 Da~~

~~29. The composition of any claim 14 to 28, further comprising a diesel fuel and wherein the at least one polymer is present in the diesel fuel in an amount from 0.1 ppm to 3000 ppm by weight, based on a total weight of the diesel fuel and composition.~~

9, ~~30. The composition of claim 29~~, wherein the at least one polymer is present in the diesel fuel in an amount from 1 ppm to 100 ppm by weight, based on a total weight of the ~~of the~~ diesel fuel ~~and~~ composition.

11. ~~31. A method of reducing foam~~The use of an acrylamide polymer as defined in ~~a diesel fuel, said method comprising adding the composition of~~ any claim ~~14~~1 to ~~28 to a diesel fuel.~~

~~32. A method of reducing the amount of foam produced while filling the diesel tank of a vehicle, said method comprising adding the composition of any claim 14 to 28, to a diesel fuel.~~

~~33. The use of a composition as in any claim 14 to 28~~10 to reduce foam in a diesel fuel.