

CLAIMS

1. A method of activating an organoclay stabiliser, which organoclay stabiliser is suitable for use with a low polarity liquid, comprising mixing the organoclay stabiliser with an emulsifier selected from the group consisting of alkyl ethoxylates, alkyl ethoxylate phosphate esters, alkyl sulphates, alkyl ammonium salts and castor oil ethoxylates, under high shear conditions in the presence of a low polarity liquid.
2. A method according to claim 1 further comprising adding a polar activator in an amount up to 20% w/w compared to the organoclay stabiliser.
3. A method according to claim 1 or 2, further comprising adding a glycol ether.
4. A method according to any of the preceding claims, wherein activation of the organoclay takes place at a temperature above 15°C.
5. A method according to any of the preceding claims, wherein the organoclay stabiliser is selected from the group consisting of tetraalkyl ammonium bentonite, tetraalkyl ammonium hectorite and tetra(alkyl/aryl) ammonium bentonite.
6. A method according to any of the preceding claims, wherein the low polarity liquid is a paraffinic oil or mineral oil.
7. A physically stable oil dispersion comprising:
 - a) an organoclay stabiliser that is suitable for use with a low polarity liquid,
 - b) an emulsifier selected from the group consisting of alkyl ethoxylates, alkyl ethoxylate phosphate esters, alkyl sulphates, alkyl ammonium salts and castor oil ethoxylates,
 - c) a low polarity liquid, and
 - d) a solid component that is substantially insoluble in the low polarity liquid,wherein the organoclay stabiliser is activated by a method as claimed in any one of claims 1 to 6.
8. A physically stable oil dispersion according to claim 7, further comprising a polar activator present in an amount up to 20% w/w compared to the organoclay stabiliser.

9. A physically stable oil dispersion comprising:

- a) an organoclay stabiliser that is suitable for use with a low polarity liquid,
- b) an emulsifier selected from the group consisting of alkyl ethoxylates, alkyl ethoxylate phosphate esters, alkyl sulphates, alkyl ammonium salts and castor oil ethoxylates,
- c) a low polarity liquid, and

d) a solid component that is substantially insoluble in the low polarity liquid, wherein the oil dispersion contains less than 20% w/w polar activator compared to the organoclay stabiliser.

10. A physically stable oil dispersion according to any one of claims 7 to 9, further comprising a glycol ether.

11. A physically stable oil dispersion according to any one of claims 7 to 10, wherein the organoclay is selected from the group consisting of tetraalkyl ammonium bentonite, tetraalkyl ammonium hectorite and tetra(alkyl/aryl) ammonium bentonite.

12. A physically stable oil dispersion according to any one of claims 7 to 10, wherein the low polarity liquid is a paraffinic oil or mineral oil.

13. A physically stable oil dispersion according to any one of claims 7 to 12, wherein the solid component is an oil insoluble pesticide, fertiliser or adjuvant.

14. A physically stable oil dispersion according to claim 13, wherein the oil insoluble pesticide is selected from the group consisting of ALS inhibitors, HPPD inhibitors, neonicotinoids, carbamates, avermectins, pyrethroids, bisamides, triazoles, mandelamides and strobilurins.

15. A physically stable oil dispersion according to claim 14, wherein the oil insoluble pesticide is a sulfonylurea.

16. A physically stable oil dispersion according to claim 15, wherein the oil insoluble pesticide is trifloxysulfuron.

17. A method for making a physically stable oil dispersion, comprising providing
- a) an organoclay stabiliser that is suitable for use with a low polarity liquid,
 - b) a low polarity liquid,
 - c) an emulsifier selected from the group consisting of alkyl ethoxylates, alkyl ethoxylate
 - 5 phosphate esters, alkyl sulphates, alkyl ammonium salts, and castor oil ethoxylates, and
 - d) a solid component that is substantially insoluble in the low polarity liquid,
- and mixing the components under high shear conditions.
18. A method according to claim 17, further comprising adding a polar activator in an
- 10 amount up to 20% w/w compared to the organoclay stabiliser.
19. A method according to claim 17 or 18, further comprising adding a glycol ether.
20. A method according to any one of claims 17 to 19, wherein the organoclay stabiliser
- 15 is added to the low polarity liquid before addition of the emulsifier.
21. A method according to any one of claims 17 to 19, wherein the method is carried out at a temperature above 15°C.
22. A method according to any one of claims 17 to 19, wherein the organoclay stabiliser
- 20 is selected from the group consisting of tetraalkyl ammonium bentonite, tetraalkyl ammonium hectorite and tetra(alkyl/aryl) ammonium bentonite.
23. A method according to any one of claims 17 to 19, wherein the low polarity liquid is
- 25 a paraffinic oil or mineral oil.
24. Use of an emulsifier selected from the group consisting of alkyl ethoxylates, alkyl ethoxylate phosphate esters, alkyl sulphates, alkyl ammonium salts, and castor oil ethoxylates to activate an organoclay stabiliser that is suitable for use with a low polarity
- 30 liquid.
25. A method for controlling undesired weeds in a location, comprising applying to the weed or the location a herbicidally effective amount of a physically stable oil dispersion as claimed in claim 15 or 16, or a dilution thereof.

CLAIMS

1. A physically stable oil dispersion comprising:

- a) an organoclay stabiliser selected from the group consisting of tetraalkyl ammonium bentonite, tetraalkyl ammonium hectorite and tetra(alkyl/aryl)ammonium bentonite,
- b) an alkyl ethoxylate emulsifier,
- c) a low polarity liquid selected from the group consisting of paraffinic oil and mineral oil having a dielectric constant less than 2.5, and
- d) an oil insoluble pesticide that has a particle size of from about 1 to about 10 μm and is substantially insoluble in the low polarity liquid,

wherein the organoclay stabiliser is activated by a method comprising mixing the organoclay stabiliser with the alkyl ethoxylate emulsifier under high shear conditions in the presence of the low polarity liquid at a temperature above 15°C. wherein the ratio range of the organoclay to the emulsifier ranges from about 1:10 to about 1:1.

2. A physically stable oil dispersion according to claim 1, further comprising a polar activator present in an amount up to 20% w/w compared to the organoclay stabiliser.

3. A physically stable oil dispersion according to claim 2, wherein the oil dispersion contains less than 20% w/w polar activator compared to the organoclay stabiliser.

4. A physically stable oil dispersion according to claim 1, further comprising a glycol ether.

5. A physically stable oil dispersion according to claim 1, wherein the oil insoluble pesticide is selected from the group consisting of ALS inhibitors, HPPD inhibitors, neonicotinoids, carbamates, avermectins, pyrethroids, bisamides, triazoles, mandelamides and strobilurins.

6. A physically stable oil dispersion according to claim 2, wherein the organoclay stabiliser is tetraalkyl ammonium hectorite, the low polarity liquid is mineral oil and the polar activator is propylene carbonate.