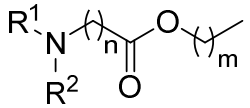
CLAIMS

1. A formulation for an ink fixer fluid, comprising:

at least one surfactant of Formula I,



Formula I

wherein R^1 and R^2 may be the same or different, and may be selected from the group consisting of hydrogen and C_1-C_6 alkyl, wherein the C_1-C_6 alkyl may optionally be substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

n is an integer from 2 to 5 (including 2 and 5);

m is an integer from 9 to 20 (including 9 and 20);

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, hydroxyl, and C_1-C_6 alkyl, wherein the C_1-C_6 alkyl may optionally be substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, iodide, and hydroxide;

a fixer agent; and

water.

2. The formulation of Claim 1, wherein the fixer agent is a metal carboxylate.

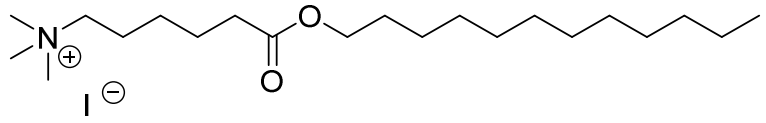
3. The formulation of either Claim 1 or Claim 2, further comprising a humectant.

4. The formulation of any of Claims 1-3, further comprising an acid.

5. The formulation of any of Claims 1-4, further comprising an aqueous vehicle.

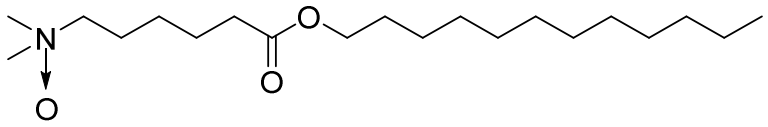
6. The formulation of any of Claims 1-5, further comprising a colorant dispersed in an aqueous vehicle.

7. The formulation of any of Claims 1-6, wherein the surfactant comprises at least one of 6-(dodecyloxy)-N,N,N-trimethyl-6-oxohexan-1-aminium iodide, having the following formula:



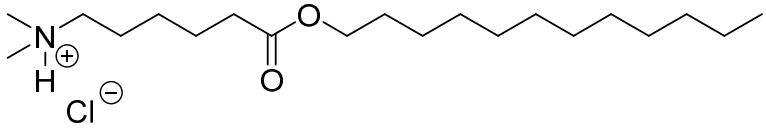
;

dodecyl 6-(dimethylamino)hexanoate *N*-oxide, having the following formula:



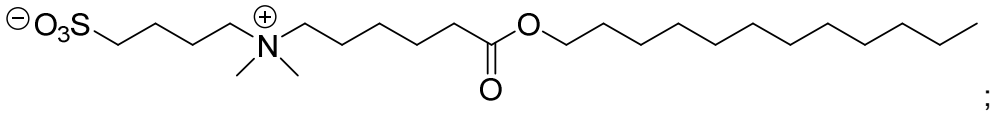
;

6-(dodecyloxy)-N,N-dimethyl-6-oxohexan-1-aminium chloride, having the following formula:



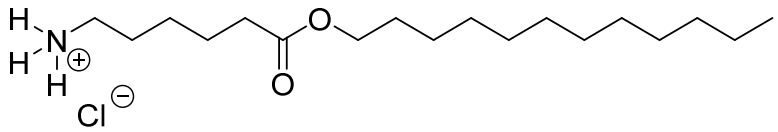
;

4-((6-(dodecyloxy)-6-oxohexyl)dimethylammonio)butane-1-sulfonate, having the following formula:



;

6-(dodecyloxy)-6-oxohexan-1-aminium chloride, having the following formula:

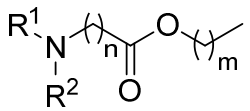


; and

combinations thereof.

8. A formulation for a paint, comprising:

at least one surfactant of Formula I,



Formula I

wherein R^1 and R^2 may be the same or different, and may be selected from the group consisting of hydrogen and C_1-C_6 alkyl, wherein the C_1-C_6 alkyl may optionally be substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

n is an integer from 2 to 5 (including 2 and 5);

m is an integer from 9 to 20 (including 9 and 20);

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, hydroxyl, and C_1-C_6 alkyl, wherein the C_1-C_6 alkyl may optionally be substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, iodide, and hydroxide;

at least one of a latex and a binder; and

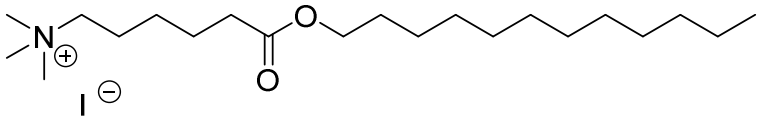
water.

9. The formulation of Claim 8, further comprising one or more driers.

10. The formulation of either Claim 8 or Claim 9, further comprising one or more solvents.

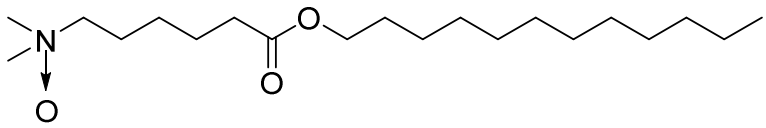
11. The formulation of any of Claims 8-10, further comprising at one or more pigments.

12. The formulation of any of Claims 8-11, wherein the surfactant comprises at least one of 6-(dodecyloxy)-N,N,N-trimethyl-6-oxohexan-1-aminium iodide, having the following formula:



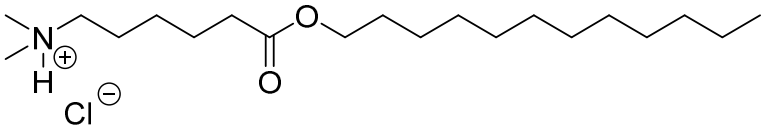
;

dodecyl 6-(dimethylamino)hexanoate *N*-oxide, having the following formula:



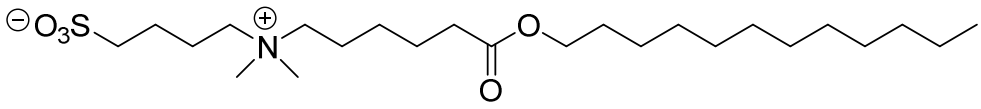
;

6-(dodecyloxy)-N,N-dimethyl-6-oxohexan-1-aminium chloride, having the following formula:



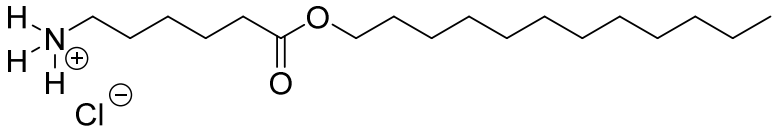
;

4-((6-(dodecyloxy)-6-oxohexyl)dimethylammonio)butane-1-sulfonate, having the following formula:



;

6-(dodecyloxy)-6-oxohexan-1-aminium chloride, having the following formula:

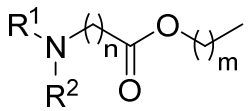


; and

combinations thereof.

13. A formulation for an adhesive, comprising:

at least one surfactant of Formula I,



Formula I

wherein R^1 and R^2 may be the same or different, and may be selected from the group consisting of hydrogen and C_1-C_6 alkyl, wherein the C_1-C_6 alkyl may optionally be substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

n is an integer from 2 to 5 (including 2 and 5);

m is an integer from 9 to 20 (including 9 and 20);

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, hydroxyl, and C_1-C_6 alkyl, wherein the C_1-C_6 alkyl may optionally be substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

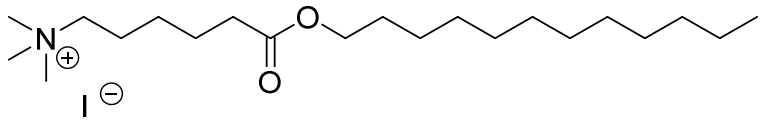
an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, iodide, and hydroxide;

an adhesive;

water.

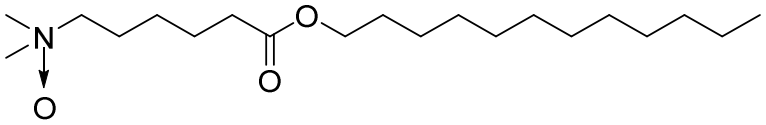
14. The formulation of Claim 13, further comprising a filling agent.

15. The formulation of either Claim 13 or Claim 14, wherein the surfactant comprises at least one of 6-(dodecyloxy)-N,N,N-trimethyl-6-oxohexan-1-aminium iodide, having the following formula:

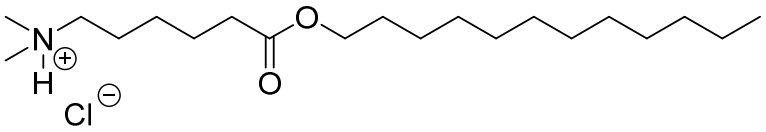


;

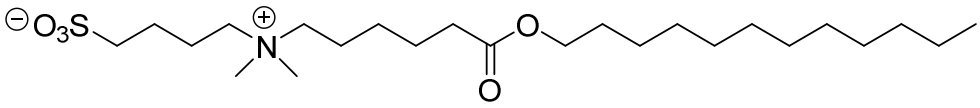
dodecyl 6-(dimethylamino)hexanoate *N*-oxide, having the following formula:


;

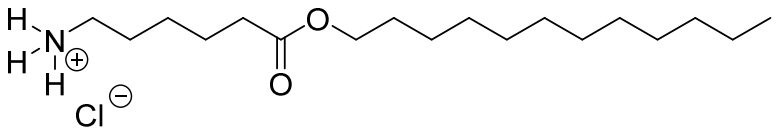
6-(dodecyloxy)-N,N-dimethyl-6-oxohexan-1-aminium chloride, having the following formula:


;

4-((6-(dodecyloxy)-6-oxohexyl)dimethylammonio)butane-1-sulfonate, having the following formula:


;

6-(dodecyloxy)-6-oxohexan-1-aminium chloride, having the following formula:


; and

combinations thereof.

16. Use of the formulation of any of claims 1-7 as an ink fixer fluid, the formulation of any of claims 8-12 as a paint, or the formulation of any of claims 13-15 as an adhesive.