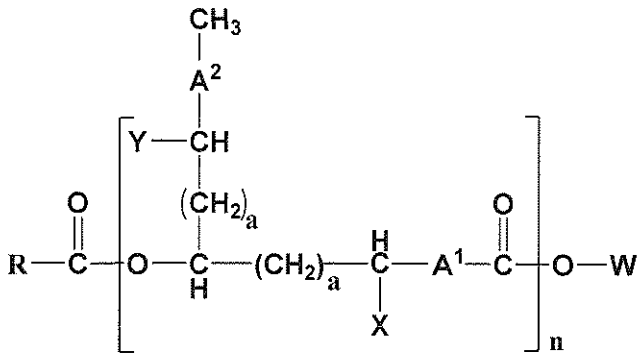
CLAIMS

1. A liquid cleaning composition, comprising:

at least one compound having the following Formula 1:

Formula 1



wherein n is an integer from 1-30;

one of X and Y is SO_3-Z, the other of X and Y is H, and X and Y are independently assigned in each repeating unit;

A^1 and A^2 are linear or branched, saturated or unsaturated, substituted or un-substituted, alkyl diradicals wherein the total number of carbons for each repeating unit is independent and in the range of C_8 to C_{22};

a is 0, 1, or 2, and is independently assigned in each repeating unit;

R is linear or branched, saturated or unsaturated, substituted or un-substituted, wherein the total number of carbon atoms is from about 1 to about 24;

W is a ~~monovalent~~ cation selected from the group consisting of sodium, lithium, ammonium, and mixtures~~, divalent metal cation, ammonium cation, substituted ammonium cation, alkyl group, substituted alkyl group or mixture~~ thereof;

Z is a ~~monovalent~~ cation~~, divalent metal cation, ammonium cation, substituted ammonium cation, or mixture~~ selected from the group consisting of sodium, lithium, ammonium, and mixtures thereof;

at least one alkyl ester sulfonate surfactant;

wherein the liquid composition is substantially free of settled precipitation, and has a percent transmittance of greater than about 50 at 570 nanometers measured in the absence of dyes and opacifiers, at 25 degrees Celsius.

~~2. The composition of claim 1 wherein W and Z are cations selected from the group consisting of: sodium, lithium, ammonium and mixtures thereof.~~

~~3.~~2. The composition of claim 1 wherein W and Z are sodium cations.

~~4.~~3. The composition of claim 1 wherein the composition has a total, combined amount of saturated C16 and C18 fatty acid, or soap thereof, of less than about 5% by weight.

~~5.~~4. The composition of claim 1 wherein the composition has a total, combined amount of saturated C16 and C18 fatty acid, or soap thereof, of less than about 3% by weight.

~~6.~~5. The composition of claim 1 wherein the composition has a total, combined amount of saturated C16 and C18 fatty acid, or soap thereof, of less than about 1% by weight.

~~7.~~6. The composition of claim 1 wherein the Formula 1 compound is present in the composition in an amount of about 1% to about 50% by weight, the alkyl ester sulfonate is present in the composition in amount of about 1% to about 40% by weight, and the composition further comprises about 10% to about 98% water.

~~8.~~7. The composition of claims 1 to ~~7~~ 6 further comprising at least one additional component.

~~9.~~8. The composition of claim ~~8~~ 7 wherein the additional component is selected from the group consisting of surfactants, builders, alkaline agents, enzymes, adjuvants, cleaning adjuncts, perfumes, dyes and mixtures thereof.

~~10.~~9. The composition of claim ~~9~~ 8 wherein the surfactant is selected from anionic, cationic, nonionic, ampholytic and zwitterionic surfactants, and mixtures thereof.

~~11.~~10. The composition of claim ~~10~~ 9 wherein the surfactant is selected from the group consisting of alcohol ethoxylates, alkyl polyglucosides, alkyl ether sulfates, linear alkyl benzene sulfonates and mixtures thereof.

~~12.~~11. The composition of any of claims 1 to ~~11~~ 7 wherein the alkyl ester sulfonate is selected from the group consisting of substantially C12 alpha methyl ester sulfonate, substantially C16 alpha methyl ester sulfonate, and a blend of C12 to C18 alpha methyl ester sulfonates.