Claims

1. A method for the suspension of inert colloidal or non-colloidal abrasive or non-abrasive particles in a aqueous or semi aqueous organic carrier medium which comprises

producing in-situ formed suspending particles selected from the group consisting of stable gel particles, sol-gel particles and gelatinous precipitates so as to establish an appropriate concentration of suspending particles to inert particles in said carrier medium, said carrier medium comprising a range from 0.1 to 60% by weight of the suspending particles, which differ from said inert particles, and are selected from the group consisting of metal, semi-metal or transition metal hydroxides and oxide hydrates that form in-situ

said suspending particles within and inclusive of said carrier medium at a pH between 3 and 12, whereby said inert particles are suspended in said carrier medium by at least one of physical interference, density differences and electrostatic charges repulsion of the suspending particles that interferes with hard settling or agglomeration of

said inert particles, wherein the gel particles are prepared separately and used alone or in a carrier as a lubricant and/or suspension agent or combined with a polar or non-polar solvent.

2. The method of claim 1 wherein said aqueous carrier medium contains at least one inert polar solvent.

3. The method of claim 2 wherein said inert polar solvent is selected from the group consisting of dialkylene glycol, alkylene glycol, glycol ether, polyalkylene glycol, alkyl lactone, N-methyl pyrrolidone, alkylene carbonates, acetonitrile, and dimethyl acetamide.

4. The method of claim 1 wherein said suspending gel particles, sol gel particles, and gelatinous precipitates are transition metal hydroxides, oxy hydroxides, or oxide hydrates.

5. The method of claim 1 wherein said inert particles being suspended are selected from the group consisting of titanium dioxide, silicon carbide, zirconium oxide, silica, cerium oxide, aluminum oxide, silicon nitride, boron carbide, tungsten carbide, diamond, silicon dioxide and dry pigment particles.

6. The method of claim 1 including a corrosion inhibitor.

7. A aqueous or semi-aqueous composition for suspending inert colloidal or non-colloidal abrasive or non-abrasive particles for use in an abrading which comprises in-situ formation of suspending particles selected from the group consisting of stable gel particles, sol-gel particles and gelatinous precipitates in an aqueous carrier medium having an appropriate concentration of suspending particles to inert particles sufficient to establish interference to settling of said inert particles in said carrier medium and a pH between 3 to 12, said suspending particles, which differ from said inert particles, being selected from the group consisting of metal, semi-metal or transition metal hydroxides and oxide hydrates and are present in said carrier medium at a concentration of 0.1 to 60% by weight, whereby said inert particles are suspended in said carrier medium by at least one of density differences and electrostatic charge repulsion of the suspending particles that interferes with hard settling or agglomeration of said inert particles,

wherein the gel particles are prepared separately and then used alone or in a carrier as a lubricant and/or suspension agent or combined with a polar or non-polar solvent.

8. The composition of claim 7 including a corrosion inhibitor.

9. The composition of claim 7 wherein the inert abrasive particles are selected from the group consisting of titanium dioxide, silicon carbide, zirconium oxide, silica, cerium oxide, aluminum oxide, diamond, silicon nitride, boron carbide, tungsten carbide and silicon dioxide.

10. The composition of claim 7 wherein said inert polar solvent is selected from the group consisting of dialkylene glycol, alkylene glycol, glycol ether, polyalkylene glycol, alkyl lactone, N-methyl pyrrolidone, alkylene carbonates, acetonitrile, and dimethyl acetamide.