What is claimed is:

1. A method for applying an ophthalmic product having a lubricous and wettable surface, comprising the steps of:

(1) obtaining a silicone hydrogel contact lens,

(2) placing the silicone hydrogel contact lens in a lens package containing an in-package-coating solution, wherein the in-package-coating solution comprises:

(A) a polyanionic polymer having carboxyl groups,

(B) at least one water-soluble and thermally-crosslinkable polymeric material comprising azetidinium groups,

(C) at least one decomposable-at-autoclave material, wherein the in-package-coating solution has a pH of from about 1.0 to about 4.0, provided that the molar charge ratio of the polyanionic polymer and the water-soluble and thermal-crosslinkable polymeric material comprising azetidinium groups is from 1:100 to 100:1

and no precipitation is formed after mixings, wherein the polyanionic polymer attaching and forming at least one layer coating on the surface of the silicone hydrogel contact lens,

(3) sealing the lens package with the contact lens and the in-package-coating solution having the pH of from about 1.0 to about 4.0,

(4) autoclaving said package with the contact lens and the in-package-coating solution therein, thereby inducing crosslinking reaction between azetidinium groups of the water-soluble polymeric material and the carboxyl groups of the polyanionic polymer to form a crosslinked hydrophilic coating on the surface of the silicone hydrogel contact lens immersed in the in-package-coating solution, wherein the decomposable-at-autoclave material is hydrolyzed to increase the pH to 6.5 to 7.5, wherein the silicone hydrogel contact lens with the crosslinked hydrophilic coating thereon has a surface wettability characterized by having an averaged water contact angle of about 80 degrees or less and having improved lubricity as compared to uncoated lenses.

2. The method of claim 1, wherein the decomposable-at-autoclave material is urea, ammonium carbamate, or combination thereof.

3. The method of claim 2, wherein the step of autoclaving is performed by heating the silicone hydrogel contact lens immersed in a packaging solution in a sealed lens package at a temperature of from about 118° C. to about 125° C. for approximately 20-90 minutes to form the crosslinked hydrophilic coating on the silicone hydrogel contact lens, wherein the packaging solution comprises at least one buffering agent in an amount sufficient to maintain a pH of from about 6.0 to about 8.5 and has a tonicity of from about 200 to about 450 milliosmol (mOsm) and a viscosity of from about 1 centipoise to about 20 centipoises at 25° C.

4. The method of claim 1, wherein the water-soluble and thermally-crosslinkable polymeric material comprises (i) from about 20% to about 95% by weight of first polymer chains derived from an epichlorohydrin-functionalized polyamine or polyamidoamine, (ii) from about 5% to about 80% by weight of hydrophilic moieties or second polymer chains derived from at least one hydrophilicity-enhancing agent having at least one reactive functional group selected from the group consisting of amino group, carboxyl group, and combination thereof.

5. The method of claim 4, wherein the hydrophilic polymer as the hydrophilicity-enhancing agent is a copolymer which is a polymerization product of a composition comprising (1) about 60% by weight or less by weight of at least one reactive vinylic monomer and (2) at least one non-reactive hydrophilic vinylic monomer and/or at least one phosphorylcholine-containing vinylic monomer; or combinations thereof;

wherein the reactive vinylic monomer is selected from the group consisting of amino-C_1-C_6 alkyl (meth)acrylate, C_1-C_6 alkylamino-C_1-C_6 alkyl (meth)acrylate, allylamine, vinylamine, amino-C_1-C_6 alkyl (meth)acrylamide, C_1-C_6 alkylamino-C_1-C_6 alkyl (meth)acrylamide, acrylic acid, C_1-C_{12} alkylacrylic acid, N,N-2-acrylamidoglycolic acid, beta-methyl-acrylic acid, alpha-phenyl acrylic acid, beta-acryloxy propionic acid, sorbic acid, angelic acid, cinnamic acid, 1-carobxy-4-phenyl butadiene-1,3, itaconic acid, citraconic acid, mesaconic acid, glutaconic acid, aconitic acid, maleic acid, fumaric acid, tricarboxy ethylene, and combinations thereof;

wherein the non-reactive hydrophilic vinylic monomer is selected from the group consisting of acrylamide, methacrylamide, N,N-dimethylacrylamide, N,N-dimethylmethacrylamide, N-vinylpyrrolidone, N,N,-dimethylaminoethylmethacrylate, N,N-dimethylaminoethylacrylate, N,N-dimethylaminopropylmethacrylamide, N,N-dimethylaminopropylacrylamide, glycerol methacrylate, 3-acryloylamino-1-propanol, N-hydroxyethyl acrylamide, N-[tris(hydroxymethyl) methyl]-acrylamide, N-methyl-3-methylene-2-pyrrolidone, 1-ethyl-3-methylene-2-pyrrolidone, 1-methyl-5-methylene-2-pyrrolidone, 1-ethyl-5-methylene-2-pyrrolidone, 5-methyl-3-methylene-2-pyrrolidone, 5-ethyl-3-methylene-2-pyrrolidone, 2-hydroxyethyl (meth)acrylate, hydroxypropyl (meth)acrylate, C_1-C_4-alkoxy polyethylene glycol (meth)acrylate having a weight average molecular weight of up to 1500 Daltons, N-vinyl formamide, N-vinyl acetamide, N-vinyl isopropylamide, N-vinyl-N-methyl acetamide, allyl alcohol, vinyl alcohol (hydrolyzed form of vinyl acetate in the copolymer), and combinations thereof.

6. The method of claim 4, wherein the weight average molecular weight M_w of the hydrophilic polymer as the hydrophilicity-enhancing agent is from about 500 to about 1,000,000.

7. The method of claim 4, wherein the molar charge ratio of the polyanionic material to the water soluble and thermal-crosslinkable hydrophilic polymeric material azetidinium groups is from 1:20 to 20:1.