The resulting silicone gels are useful as potting materials and encapsulating materials. The silicone gels also find application in the medical field as used in breast prostheses and in the manufacture of equipment utilizing solar energy, such as collectors.

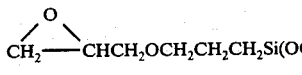
The following example is presented for illustrative purposes and should not be construed as limiting the scope of the present invention which is properly delineated in the claims. All parts in the following examples are parts by weight unless otherwise specifically stated.

EXAMPLE

(A) A first mixture was prepared by rolling a container containing 99.6 parts of a methylphenylvinylsiloxy endblocked polydimethylsiloxane (Polymer A) having a viscosity at 25° C. in the range of 0.3 to 0.5 Pa·s and an average ratio of organic radicals per silicon atom in the range of 2.012 to 2.016, and 0.4 part of a chloroplatinic acid complex of divinyltetramethyldisiloxane diluted with Polymer A to provide 0.63 weight percent platinum. A second mixture was prepared by rolling a container containing 97.65 parts of Polymer A and 2.35 parts of a trimethylsiloxy endblocked polyorganosiloxane (polymer B) having siloxane units of 37.5 mol percent dimethylsiloxane units and 62.5 mol percent methylhydrogensiloxane units where the mol percent is exclusive of the trimethylsiloxy units and a silicon-bonded hydrogen content in the range of about 0.7 to 0.8 weight percent.

(B) A first mixture was prepared as described in (A) by combining 99.31 parts of Polymer A, 0.41 part of the platinum complex and 0.28 part of a hydroxy endblocked polymethylvinylsiloxane (Polymer C) having a viscosity at 25° C. in the range of 0.02 to 0.05 Pa·s, a silicon-bonded hydroxyl content of 3.0 to 4.5 weight and an average of 8 to 13 methylvinylsiloxane units per molecule. A second mixture was prepared as described in (A) by combining 97.08 parts of Polymer A and 2.92 parts of Polymer B.

(C) A first mixture was prepared as described in (A) by combining 99.35 parts of Polymer A, 0.41 part of the platinum complex and 0.24 part of a silane of the formula



$$CH_2\!\!-\!\!\overset{O}{\overset{/\ \backslash}{}}\!\!-\!\!CHCH_2OCH_2CH_2CH_2Si(OCH_3)_3.$$

A second mixture was prepared as described in (A) by combining 97.65 parts of Polymer A and 2.35 parts of Polymer B.

(D) A first mixture was prepared as described in (A) by combining 99.08 parts of Polymer A and 0.41 part of the platinum complex, thereafter 0.27 part of Polymer C was added and the container rolled and finally 0.24 part of the silane defined in (C) was added. A second mixture was prepared as described in (A) by combining 97.08 parts of Polymer A and 2.92 parts of Polymer B.

The first and second mixtures of (A), (B), (C) and (D) were thoroughly mixed in equal weight amounts to form gel compositions. A sample of gel composition was heated at 135° C. to determine a gel time. A sample of each gel composition was cured by heating at 150° C. The cured gel was maintained at 150° C. while observing the color changes. Gel (A) was used as the control and contained no additives. Gels (B) and (C) were used as comparisons to determine if both additives were required. Gel (D) was a gel of this invention.

Gel (A) had a 135° C. gel time of 7.8 minutes and became dark brown in one hour.

Gel (B) had a 135° C. gel time of 11.2 minutes and became yellow in four days.

Gel (C) became yellow and in 2 weeks was brown but not as dark as gel (A).

Gel (D) showed some color change after 4 days but was only light yellow after two weeks. Gel (D) had a 135° C. gel time of 11.0 minutes.

A gel was prepared as described for (D) except Polymer C and the defined silane were mixed one week prior to the addition to the other ingredients. The gel became cloudy.

That which is claimed is:

1. A method for preventing discoloration of a silicone gel comprising mixing

(A) vinyl-containing polyorganosiloxane having an average of about two silicon-bonded vinyl radicals per molecule, an average ratio of organo radicals per silicon atom within a range greater than 2 up to and including 2.03, and each organo radical of the polyorganosiloxane being a monovalent radical selected from the group consisting of hydrocarbon radicals and fluorinated alkyl radicals both having less than 7 carbon atoms per radical,

(B) an organosilicon compound having an average of at least 3 silicon-bonded hydrogen atoms per organosilicon compound molecule and valences of any silicon atom in the organosilicon compound not satisfied by a hydrogen atom is satisfied by a divalent oxygen atom or an organo radical wherein each organo radical is a monovalent radical selected from the group consisting of hydrocarbon radicals and fluorinated alkyl radicals both having less than 7 carbon atoms per radical, the organosilicon compound having no more than one silicon-bonded hydrogen atom on any one silicon atom,

(C) polysiloxane having at least one silicon-bonded hydroxyl radical per molecule and at least two silicon-bonded vinyl radicals per molecule, the polysiloxane having siloxane units bonded through silicon-oxygen-silicon bonds and valences of each silicon atom in the polysiloxane are satisfied by at least one of monovalent alkyl radical having less than 7 carbon atoms per radical, divalent oxygen, phenyl radical, vinyl radical and hydroxyl radical, the polysiloxane having an average of less than 15 silicon atoms per molecule,

(D) a silane having at least one epoxy-containing organo group, at least one silicon-bonded alkoxy group having less than 5 carbon atoms per group, and any remaining valences of the silane not satisfied by an epoxy-containing organo group or an alkoxy group is satisfied by a monovalent hydrocarbon radical or a fluorinated alkyl radical both having less than 7 carbon atoms per radical, and

(E) a platinum catalyst,

(A) and (B) being present in amounts sufficient to provide a mol ratio of silicon-bonded hydrogen atoms in (B) to silicon-bonded vinyl radical in (A) of less than one, the combined weight of (C) and (D) is less than 1.5 weight percent of the total composition, (C) being present in an amount of from 75 to 350 parts by weight per one part by weight of platinum and (D) being present in an amount of from 50 to 300 parts by weight per one part by weight platinum,