CLAIMS

1. A method for producing a tetravinylsilane-containing organosilicon precursor composition, the method comprising the steps of:

distilling at least once a composition comprising tetravinylsilane, wherein a distilled tetravinylsilane composition is produced after distilling, wherein the distilled tetravinylsilane composition includes no more than 100 ppm (0.01 wt. %) of >1000 amu impurities as determined by Gel Permeation Chromatography (GPC) and wherein the distilled tetravinylsilane composition includes less than 50 ppm water impurity and less than 10 ppm halide impurity; and

packaging the distilled tetravinylsilane composition in a container, wherein the container is made of stainless steel, and wherein the container permits transmission into the container of no more than 10% of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm.

2. The method of claim 1 further comprising adding a stabilizer compound to the distilled tetravinylsilane composition prior to said packing step.

3. The method of claim 2 wherein the stabilizer compound is selected from the group consisting of 2,6-di-tert-butyl-4-methyl phenol , 2,2,6,6-tetramethyl-1-piperidinyloxy (TEMPO), 2- tert-butyl-4-hydroxyanisole, 3-tert-butyl-4-hydroxyanisole, propyl ester 3,4,5-trihydroxy-benzoic acid, 2-(1,1-dimethylethyl)-1,4-benzenediol, diphenylpicrylhydrazyl, 4-tert-butylcatechol, N-methylaniline, p- methoxydiphenylamine, diphenylamine, N,N'-diphenyl-p-phenylenediamine, p- hydroxydiphenylamine, phenol, octadecyl-3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate, tetrakis (methylene (3,5-di-tert-butyl)-4- hydroxy-hydrocinnamate) methane, phenothiazines, alkylamidonoisoureas, thiodiethylene bis (3,5,-di-tert-butyl-4-hydroxy-hydrocinnamate, 1,2,-bis (3,5-di-tert-butyl-4-hydroxyhydrocinnamoyl) hydrazine, tris (2-methyl-4- hydroxy-5-tert-butylphenyl) butane, cyclic neopentanetetrayl bis

(octadecyl phosphite), 4,4'-thiobis (6-tert-butyl-m-cresol), 2,2'- methylenebis (6-tert-butyl-p-cresol), oxalyl bis (benzylidenehydrazide), raw seed oils, wheat germ oil, tocopherols and gums.

4. The method of claim 1 wherein the container permits transmission into the container of no more than 7% of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm.

5. The method of claim 4 wherein the container permits transmission into the container of no more than 1% of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm.

6. The method of claim 5 wherein the container permits 0% transmission into the container of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm.

7. A system for storing tetravinylsilane, the system comprising:

a container, wherein the container is made of stainless steel, and wherein the container permits transmission into the container of no more than 10% of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm; and

contained within the container, distilled tetravinylsilane,

wherein the distilled tetravinylsilane composition includes no more than 100 ppm (0.01 wt. %) of >1000 amu impurities as determined by Gel Permeation Chromatography (GPC) and wherein the distilled tetravinylsilane composition includes less than 50 ppm water impurity and less than 10 ppm halide impurity.

8. The system of claim 7 wherein a stabilizer compound is further contained within the container.

9. The system of claim 8 wherein the stabilizer compound is selected from the group consisting of 2,6-di-tert-butyl-4-methyl phenol (BHT), 2,2,6,6-tetramethyl-1-piperidinyloxy (TEMPO), 2- tert-butyl-4-hydroxyanisole, 3-tert-butyl-4-hydroxyanisole, propyl ester 3,4,5-trihydroxy-benzoic acid, 2-(1,1-dimethylethyl)-1,4-benzenediol, diphenylpicrylhydrazyl, 4-tert-butylcatechol, N-methylaniline, p-methoxydiphenylamine, diphenylamine, N,N'-diphenyl-p-phenylenediamine, p- hydroxydiphenylamine, phenol, octadecyl-3-(3,5-di-tert-butyl-4- hydroxyphenyl) propionate, tetrakis (methylene (3,5-di-tert-butyl)-4- hydroxy-hydrocinnamate) methane, phenothiazines, alkylamidonoisoureas, thiodiethylene bis (3,5,-di-tert-butyl-4-hydroxy-hydrocinnamate, 1,2,-bis (3,5-di-tert-butyl-4-hydroxyhydrocinnamoyl) hydrazine, tris (2-methyl-4- hydroxy-5-tert-butylphenyl) butane, cyclic neopentanetetrayl bis (octadecyl phosphite), 4,4'-thiobis (6-tert-butyl-m-cresol), 2,2'-methylenebis (6-tert-butyl-p-cresol), oxalyl bis (benzylidenehydrazide), raw seed oils, wheat germ oil, tocopherols and gums.

10. The system of claim 7 wherein the container permits transmission into the container of no more than 7% of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm.

11. The system of claim 10 wherein the container permits transmission into the container of no more than 5% of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm.

12. The system of claim 11 wherein the container permits transmission into the container of no more than 2% of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm.

13. The system of claim 12 wherein the container permits transmission into the container of no more than 1% of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm.

14. The system of claim 13 wherein the container permits 0% transmission into the container of ultraviolet and visible light having a wavelength of between 290 nm to 450 nm.