TABLE 1

| Example | Alkanol Amine[a] | Reducing Agent[b] | pH | Tap Density g/ml | Surface Area $m^2/g$ | Part. Size Distribution d90 | d50 | d10 |
|---|---|---|---|---|---|---|---|---|
| 1 | M | Asc | 11 | 1.1 | 0.92 | 26.9 | 1.79 | 1.26 |
| 2 | D | Asc | 10 | 2.8 | 0.58 | 2.15 | 1.06 | 0.51 |
| 3 | T | Asc | 9 | 2.4 | 1.20 | 11.5 | 1.87 | 0.63 |
| 4 | M | Hyq | 11 | 4.2 | 0.54 | 3.86 | 2.09 | 0.76 |
| 5 | D | Hyq | 10 | 3.6 | 1.39 | 2.06 | 0.94 | 0.46 |
| 6 | T | Hyq | 9 | 2.3 | 2.29 | 1.81 | 0.68 | 0.20 |
| 7 | M | Iso | 11 | 2.2 | 0.68 | 3.51 | 1.79 | 0.71 |
| 8 | D | Iso | 10 | 1.6 | 0.82 | 3.27 | 1.63 | 0.66 |
| 9 | M | Quin | 11 | 3.3 | 2.45 | 3.01 | 1.44 | 0.57 |
| 10 | D | Quin | 10 | 3.6 | 7.92 | 2.14 | 1.12 | 0.54 |
| 11 | T | Quin | 9 | 2.8 | 2.26 | 1.52 | 0.77 | 0.42 |

[a]M = monoethanolamine
D = diethanolamine
T = triethanolamine
[b]Asc = l-ascorbic acid
Hyq = hydroquinone
Iso = d-isoascorbic acid
Quin = quinone

TABLE 2

| Examples | Temp. °C. | Alkanol Amine[a] | Reducing Agent[b] | Surface Area $m^2/g$ | Tap Density g/ml | Part. Size Distribution d90 | d50 | d10 |
|---|---|---|---|---|---|---|---|---|
| 12 | 10 | D | Asc | 0.76 | 0.92 | 6.93 | 3.77 | 1.42 |
| 13 | 23 | D | Asc | 0.86 | 2.04 | 3.13 | 1.43 | 0.60 |
| 14 | 30 | D | Asc | 0.86 | 2.33 | 2.70 | 1.26 | 0.55 |
| 15 | 40 | D | Asc | 1.02 | 1.50 | 2.20 | 1.07 | 0.51 |
| 16 | 60 | D | Asc | 0.46 | 2.05 | 3.15 | 1.46 | 0.59 |
| 17 | 80 | D | Asc | 0.51 | 1.95 | 5.44 | 1.87 | 0.63 |
| 18 | 10 | M | Hyq | 0.59 | 4.35 | 2.99 | 1.74 | 0.87 |
| 19 | 23 | M | Hyq | 0.92 | 4.05 | 2.44 | 1.35 | 0.66 |
| 20 | 30 | M | Hyq | 0.52 | 4.08 | 4.60 | 2.58 | 0.95 |
| 21 | 40 | M | Hyq | 0.37 | 4.15 | 6.10 | 3.30 | 1.24 |
| 22 | 60 | M | Hyq | 0.80 | 4.21 | 4.31 | 2.35 | 0.87 |
| 23 | 80 | M | Hyq | 0.68 | 3.80 | 4.32 | 2.21 | 0.80 |

[a]M = monoethanolamine
D = diethanolamine
[b]Asc = l-ascorbic acid
Hyq = hydroquinone

## EXAMPLE 24

The silver alkanolamine complex solution was prepared by first dissolving 210.8 g of silver nitrate in 1 liter of deionized water. While stirring, 420 ml of diethanolamine was then added dropwise to form the soluble silver alkanolamine complex. The temperature of the solution was adjusted to 23° C. The reducing solution was prepared by dissolving 108 g of l-ascorbic acid in 1 liter of deionized water. White stirring, 600 ml of diethanolamine was then slowly added.

The reducing solution was placed into a plastic receiving vessel and the temperature of the solution was adjusted to 23° C. The silver alkanolamine complex solution was then added quickly to the reducing solution. After two minutes, the reaction mixture was filtered using a sintered glass filtering flask. The silver particles were then washed with deionized water until a conductivity of the wash water was less than or equal to 20 micromhos and then dried.

## EXAMPLE 25

This sample was made following a similar process as described in Example 24, the difference being that the amount of diethanolamine added to the silver solution was 820 ml and no diethanolamine was added to the reducing solution. This silver powder had a lower tap density and was agglomerated by the larger PSD than the spherical powder in Example 24.

## EXAMPLE 26

The silver alkanolamine complex solution was prepared by first dissolving 105.4 g of silver nitrate in 1 liter of deionized water. While stirring, 88 ml of monoethanolamine was then added dropwise to form the soluble silver alkanolamine complex. The temperature of the solution was adjusted to 23° C. The reducing solution was prepared by dissolving 54 g of hydroquinone in 1 liter of deionized water. While stirring, 300 ml of monoethanolamine was then slowly added.

The reducing solution was placed into a plastic receiving vessel and the temperature of the solution was adjusted to 23° C. The silver alkanolamine complex solution was then added quickly to the reducing solution. After two minutes, the reaction mixture was filtered using a sintered glass filtering flask. The silver particles were then washed with deionized water until a conductivity of the wash water was less than or equal to 20 micromhos and then dried.

## EXAMPLE 27

This sample was made following a similar process as described in Example 26, the difference being that the amount of monoethanolamine added to the silver solution was 388 ml and no monoethanolamine was added to the reducing solution. This silver powder had similar properties to the silver powder of Example 26.

TABLE 3

| Examples | AA[a] | Reducing Agent[b] | Tap Density g/ml | Surface Area $m^2/g$ | Particle Size Distribution $d_{90}$ | $d_{50}$ | $d_{10}$ |
|---|---|---|---|---|---|---|---|
| 24 | D | Asc | 1.94 | 0.66 | 3.24 | 1.61 | 0.68 |
| 25 | D | Asc | 0.70 | 0.86 | 8.63 | 4.25 | 1.40 |
| 26 | M | Hyq | 4.34 | 0.56 | 2.81 | 1.64 | 0.82 |
| 27 | M | Hyq | 4.06 | 1.26 | 2.98 | 1.73 | 0.83 |

[a]AA = alkanolamine
D = diethanolamine
M = monethanolamine
[b]Asc = l-ascorbic acid
Hyq = hydroquinone

I claim:

1. A method for the preparation of finely divided, dense packing, spherical shaped silver particles comprising the steps of: