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MULTICOLORED DECORATION PAINTS AND METHOD OF PREPARING THE SAME

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ABSTRACT OF THE DISCLOSURE

The invention relates to a method of preparing multicolored decoration paint compositions of gelatinous particles which are converted into sols in the course of drying after application to a surface, and it comprises diluting a nitrocellulose lacquer, which contains the colored substances, and which comprises nitrocellulose of high viscosity and a resin of the type of butyrated formaldehyde resin or a number of other resins listed, with an alcohol such as secondary butanol or a mixture of isopropanol and normal butanol, adding water to form the gelatinous precipitates, and passing the same through a screening means of such mesh size as to yield coarsely divided gelatinous particles of a size visible to the naked eye. The invention relates also to the coating compositions so prepared.

This is a continuation-in-part application of copending application Ser. No. 258,650, filed Feb. 14, 1963, and now abandoned.

Multicolored decoration paints are known and are prepared by either (a) dispersing oleaginous colored particles of liquid phase in an oleaginous medium, (b) oleaginous colored particles of liquid phase in an aqueous medium, (c) aqueous colored particles of liquid phase in an oleginous medium, or (d) aqueous colored particles of gelatinous phase in an aqueous medium.

Paints of the kind mentioned above under (a), have the disadvantage that they are unstable and cannot long be stored, since oleaginous dispersion particles display a great affinity for the oleaginous medium in which the former are dispersed. Contrary thereto, in case of paints such as the above under (b) and (c), the affinity of the dispersion particles for their medium is so small that colored particles are apt to peel off from the painted surfaces when they are dried. Paints of the kind such as the above under (d) have the disadvantage that their painted surfaces are lustreless and uneven.

The invention is to provide a paint composition that produces various forms of multicolored decoration film of pleasing appearance, and overcomes the defects these known multicolored decoration paints have up to now.

The invention consists in a method of preparing coating compositions of gelatinous particles having the characteristic property that they are converted into sols in the course of drying after having been applied and are capable of forming a continuous film after drying upon the coated surface. The method comprising diluting nitrocellulose lacquer, containing one or more colored substances and nitrocellulose of high viscosity, alone or combined with butyrated melamine-formaldehyde resin, or butyrated benzoguanamine-formaldehyde resin or butyrated melamine-benzoguanamine-formaldehyde resin in place of butyrated melamine-formaldehyde resin, with alcohols such as secondary butanol, or a mixture of isopropanol and normal butanol adding water with stirring to said mixture to form gelatinous precipitates of the mixture, and dividing the resulting mixture, by way of a screening means, into gelatinous particles which are of a size visible to the naked eye.

The invention further consists in a method of preparing multicolored decoration paints of gelatinous particles having the characteristics outlined above, wherein two or more kinds of differently colored, coarsely divided particles, resulting from the procedure as described, are mixed together.

The characteristic features of coating compositions of the present invention, that is, that they are converted into sols in the course of drying after application and are capable of forming a continuous film after drying upon the surface to which they were applied, are facilitated by the following means:

(1) A solvent of slow evaporation rate is selected as the true solvent of the gelatinous precipitate, or at least as a part thereof.

(2) As the adjuvant solvent, diluent or the like, a solvent of greater evaporation rate is selected than that of the true solvent mentioned under (1).

If the two conditions (1) and (2) are satisfied as above, application of the coating compositions of gelatinous particles will lead to formation of a continuous film owing to the fact that, since the solvent mentioned under (2) of the coating composition evaporates faster than the solvent (1) upon standing after application, the true solvent of slow evaporation rate remains in the composition with the result that said coating composition of gelatinous precipitate is converted into sols; only upon standing for a longer period will the remaining solvent also evaporate.

According to this inventive method, coating compositions of gelatinous particles, which are suitable for their particular purposes, may be prepared by substituting butyrated melamine-formaldehyde resin or butyrated benzoguanamine-formaldehyde resin or butyrated melamine-benzoguanamine-formaldehyde cocondensation resin or butyrated dibenzoguanamine-formaldehyde resin in the composition partly with cellulose derivatives such as ethylcellulose or cellulose acetobutyrate, or other resins, such as shellac, dewaxed dammar gum, ester gum, rosin, non-drying oil modified alkyd resin, butyrated urea-formaldehyde resin, cyclohexanone resin, butyl urethane formaldehyde resin and sulfonamide resin, or by increasing or decreasing the quantity of plasticizers contained in the composition.

In the present method as more fully explained in the following examples, coarsely divided gelatinous particles of many kinds or shapes, are freely produced, merely by using a screen of suitable mesh size in accordance with their intended use.

In the conventional methods for the production of multicolored paints, the essential factors to decide the size of dispersion particles solely depend upon the rotary speeds, the shapes of the propellers in the mixing tubs used, or the viscosity of materials thereof, so that the manufacturing control is very complicated in the processes.

However, in the present methods these factors solely depend upon the mesh of screens used which are freely selectable according to each case, so that the manufacturing control is greatly simplified in the processes. The composition of gelatinous precipitates shown in the following Examples 1–14, which were prepared under atmospheric conditions at 15 to 25° C., were usable for painting under atmospheric condition at temperatures ranging from 0 to 40° C., and were capable of forming unbroken coats satisfactory over the entire painted surface. Further, according to the present inventive method, unique and complex multicolored decoration film of pleasing appearance may be obtainable by a single application of a coating composition of gelatinous precipitate, in which are contained two or more kinds of differently colored coarsely divided particles of the coating composition according to the present invention.

All the existing multicolored paints depend on the condition that dispersion particles, viz., colored particles and dispersion medium, should never be intermingled with each other. Whereas, as described in the above, the present coating compositions of gelatinous precipitate in coarsely divided particle form are converted to sols in the course of drying after application, intermingling with each other at all contact faces and sides, and resulting in forming a continuous multicolored film when dried, wherein every color element of the particles acts as an independent composing member to draw a vividly multicolored design.

Thus, the paint of this invention has the following improved properties:

(1) Desired colored decoration may be produced by single application.

(2) The painted surface has excellent resistance to weathering and is moisture-proof.

(3) It adheres well to various surfaces.

(4) It has an excellent shelf-life.

The invention will be illustrated in greater detail by the following description in connection with the following specific examples, proportions throughout being expressed as parts by weight.

Example 1

Nitrocellulose lacquer enamel, white, and nitrocellulose enamel, green, having the following compositions were prepared at the temperature of 15–25° C. and used.

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.30
20 sec. nitrocellulose (100%)	4.77
½ sec. nitrocellulose (100%)	1.70
Butyrated melamine-formaldehyde resin solution (50%)	22.2
Dibutyl phthalate	4.12
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.85
Methyl isobutyl carbinol	7.26
Toluene	22.15
Xylene	0.88
Total	100.00

Nitrocellulose lacquer enamel, green:

Chrome yellow	7.00
Prussian blue	1.30
20 sec. nitrocellulose (100%)	4.77
½ sec. nitrocellulose (100%)	1.70
Butyrated melamine-formaldehyde resin solution (50%)	22.20
Dibutyl phthalate	4.12
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.85
Methyl isobutyl carbinol	7.26
Toluene	22.15
Xylene	0.88
Total	100.00

The above nitrocellulose lacquer enamel I was treated as follows:

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Green colored gelatinous precipitates:

Nitrocellulose lacquer enamel, green	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

That is to say, to each of 44.5 parts of nitrocellulose lacquer enamel, white, and nitrocellulose lacquer, green, placed in a separate blender, were added in portions with vigorous stirring 44.5 parts of secondary butanol in about 30 minutes at a temperature of 15 to 25° C. After completion of the addition, stirring was continued for a while. Then, the mixture was stirred, by addition of 11 parts of water, in a separate stirrer efficient to mix said mixtures in a short time, for about 10 seconds. Upon standing under the above atmospheric condition for about 40 to 60 minutes, white and green colored gelatinous precipitates were respectively obtained.

The resulting products thus prepared were respectively divided into coarsely divided particles by way of passing them through a screen having desired mesh, by the application of pressure from above, or by suction from below. Gelatinous particles, white and green thus prepared were mixed for preparing multicolored coating compositions of the present invention. After application they were converted into sols in the course of drying and formed a continuous film having white and green colors interlaced and intermingled upon the coated surface, when they were dried. The coated surface displayed even and lustrous appearance and showed excellent resistance to weathering.

The following additional examples illustrate formations of the composition (I) and (II) of Example 1, applied and selected in accordance with their uses.

Example 2

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.30
20 sec. nitrocellulose (100%)	4.77
½ sec. nitrocellulose (100%)	1.70
Butyrated dibenzoguanamine-formaldehyde resin solution (50%)	15.40
Cyclohexanone resin (100%)	3.40
Castor oil	1.70
Dibutyl phthalate	4.12
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	5.57
Toluene	20.41
Xylene	2.60
Methyl isobutyl carbinol	7.26
Total	100.00

Nitrocellulose lacquer enamel, green:

Chrome oxide green	8.30
20 sec. nitrocellulose (100%)	4.77
½ sec. nitrocellulose (100%)	1.70
Butyrated dibenzoguanamine-formaldehyde resin solution (50%)	15.40
Cyclohexanone resin (100%)	3.40

Example 2—Continued

Castor oil	1.70
Dibutyl phthalate	4.12
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	5.57
Toluene	20.41
Xylene	2.60
Methyl isobutylcarbinol	7.26
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
Mixture of isopropanol and normal butanol (isopropanol:normal butanol in the ratio of 3:7 by weight)	44.5
Water	11.0
Total	100.00

Green colored gelatinous precipitates:

Nitrocellulose lacquer enamel, green	44.5
A mixture of isopropanol and normal butanol (isopropanol:normal butanol in the ratio of 3:7 by weight)	44.5
Water	11.0
Total	100.0

Example 3

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated melamine-formaldehyde resin solution (50%)	11.38
Dammar resin solution (45%)	4.00
Dibutyl phthalate	5.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	2.57
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	7.21
Methyl isobutyl carbinol	7.26
Toluene	22.05
Xylene	4.27
Total	100.00

Nitrocellulose lacquer enamel, green:

Chrome yellow	7.00
Prussian blue	1.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated melamine-formaldehyde resin solution (50%)	11.38
Dammar resin solution (45%)	4.00
Dibutyl phthalate	5.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	2.56
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	7.21
Methyl isobutyl carbinol	7.26

Toluene	22.05
Xylene	4.27
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Green colored gelatinous precipitates:

Nitrocellulose lacquer enamel, green	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Example 4

(I) Nitrocellulose lacquer enamel, yellow:

Chrome yellow 50	8.30
20 sec. nitrocellulose (100%)	4.77
½ sec. nitrocellulose (100%)	1.70
Butyrated melamine-formaldehyde resin solution (50%)	22.20
Sulfonamide resin solution (100%)	0.86
Dibutyl phthalate	4.12
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-ethyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
4-methoxy-4-methyl pentanone-2	7.69
Methyl isobutyl carbinol	7.26
Toluene	21.29
Xylene	0.88
Total	100.00

Nitrocellulose lacquer enamel, red:

Cadmium red	8.30
20 sec. nitrocellulose (100%)	4.77
½ sec. nitrocellulose (100%)	1.70
Butyrated melamine-formaldehyde resin solution (50%)	22.20
Sulfonamide resin solution (100%)	0.86
Dibutyl phthalate	4.12
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.85
Methyl isobutyl carbinol	7.26
Toluene	21.29
Xylene	0.88
Total	100.00

(II) Yellow colored gelatinous precipitates:

Nitrocellulose lacquer enamel, yellow	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Red colored gelatinous precipitates:

Nitrocellulose lacquer enamel, red	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Example 5

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated benzoguanamine-formaldehyde resin solution (55%)	20.50
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

Nitrocellulose lacquer enamel, green:

Chrome yellow	7.00
Prussian blue	1.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated benzoguanamine-formaldehyde resin solution (55%)	20.50
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Green colored gelatinous precipitates:

Nitrocellulose lacquer enamel, green	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Example 6

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated benzoguanamine-formaldehyde resin solution (55%)	18.50
Butyl urethane formaldehyde resin (100%)	2.00
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene gylcol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85

Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

Nitrocellulose lacquer enamel, green:

Chrome oxide green	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated benzoguanamine-formaldehyde resin solution (55%)	18.50
Butyl urethane formaldehyde resin (100%)	2.00
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Green colored gelatinous precipitates:

Nitrocellulose lacquer enamel, green	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Example 7

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.69
Butyrated benzoguanamine-formaldehyde resin solution (55%)	16.50
Dewaxed dammar resin solution (45%)	4.00
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

Nitrocellulose lacquer enamel, rust:

Rouge	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.69
Butyrated benzoguanamine-formaldehyde resin solution (55%)	16.50
Dewaxed dammar resin solution (45%)	4.00
Dibutyl phthalate	4.15

Example 7—Continued

Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Rust colored gelatinous precipitates:

Nitrocellulose lacquer enamel, rust	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Example 8

(I) Nitrocellulose lacquer enamel, yellow:

Cadmium yellow	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated benzoguanamine-formaldehyde resin solution (55%)	18.50
Cyclohexanone resin (100%)	2.00
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl-pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

Nitrocellulose lacquer enamel, red:

Cadmium red	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated benzoguanamine-formaldehyde resin solution (55%)	18.50
Cyclohexanone resin (100%)	2.00
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl-pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

(II) Yellow colored gelatinous precipitates:

Nitrocellulose lacquer enamel, yellow	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Red colored gelatinous precipitates:

Nitrocellulose lacquer enamel, red	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Example 9

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated benzoguanamine-formaldehyde resin solution (55%)	16.50
Butyrated urea-formaldehyde resin (60%)	4.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

Nitrocellulose lacquer enamel, green:

Chrome yellow	7.00
Prussian blue	1.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated benzoguanamine-formaldehyde resin solution (55%)	16.50
Butyrated urea-formaldehyde resin solution (60%)	4.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl-pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
A mixture of isopropanol and normal butanol (isopropanol:normal butanol in the ratio of 3:7 by weight)	44.5
Water	11.0
Total	100.0

Green colored gelatinous precipitates:

Nitrocellulose lacquer enamel, green	44.5
A mixture of isopropanol and normal butanol (isopropanol:normal butanol in the ratio of 3:7	

Example 9—Continued

by weight)	44.5
Water	11.0
Total	100.0

Example 10

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated melamine - benzoguanamine-formaldehyde cocondensation resin solution (55%)	18.50
Cyclohexanone resin (100%)	2.00
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl-pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

Nitrocellulose lacquer enamel, green:

Chrome oxide green	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated melamine - benzoguanamine-formaldehyde cocondensation resin solution (55%)	18.50
Cyclohexanone resin (100%)	2.00
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl-pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
A mixture of isopropanol and normal butanol (isopropanol:normal butanol in the ratio of 3:7 by weight)	44.5
Water	11.0
Total	100.0

Green colored gelatinous precipitates:

Nitrocellulose lacquer enamel, green	44.5
A mixture of isopropanol and normal butanol (isopropanol:normal butanol in the ratio of 3:7 by weight)	44.5
Water	11.0
Total	100.0

Example 11

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated melamine - benzoguanamine-formaldehyde cocondensation resin solution (55%)	16.50
Dewaxed dammar resin solution (45%)	4.00
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.24
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

Nitrocellulose lacquer enamel, rust:

Rouge	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated melamine - benzoguanamine-formaldehyde cocondensation resin solution (55%)	16.50
Dewaxed dammar resin solution (45%)	4.00
Dibutyl phthalate	4.15
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	3.42
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	3.84
Normal butanol	0.85
Methyl isobutyl carbinol	7.26
Toluene	20.30
Xylene	3.42
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Rust colored gelatinous precipitates:

Nitrocellulose lacquer enamel, rust	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Example 12

(I) Nitrocellulose lacquer enamel, yellow:

Chrome yellow 5G	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated dibenzoguanamine-formaldehyde resin solution (50%)	15.38
Dibutyl phthalate	5.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl-pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	2.57
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	7.21

Example 12—Continued

Methyl isobutyl carbinol	7.26
Toluene	22.05
Xylene	4.27
Total	100.00

Nitrocellulose lacquer enamel, red:

Cadmium red	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated dibenzoguanamine-formaldehyde resin solution (50%)	15.38
Dibutyl phthalate	5.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	2.57
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	7.21
Methyl isobutyl carbinol	7.26
Toluene	22.05
Xylene	4.27
Total	100.00

(II) Yellow colored gelatinous precipitates:

Nitrocellulose lacquer enamel, yellow	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Red colored gelatinous precipitates:

Nitrocellulose lacquer enamel, red	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Example 13

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated dibenzoguanamine-formaldehyde resin solution (50%)	13.38
Butyl urethane-formaldehyde resin (100%)	2.00
Dibutyl phthalate	5.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl-pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	2.57
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	7.21
Methyl isobutyl carbinol	7.26
Toluene	22.05
Xylene	3.42
Total	100.00

Nitrocellulose lacquer enamel, green:

Chrome oxide green	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated dibenzoguanamine-formaldehyde resin solution (50%)	13.38
Butyl urethane-formaldehyde resin (100%)	2.00
Dibutyl phthalate	5.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	2.57
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	7.21
Methyl isobutyl carbinol	7.26
Toluene	22.05
Xylene	4.27
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Green colored gelatinous precipitates:

Nitrocellulose lacquer enamel, green	44.5
Secondary butanol	44.5
Water	11.0
Total	100.0

Example 14

(I) Nitrocellulose lacquer enamel, white:

Titanium white	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated dibenzoguanamine-formaldehyde resin solution (50%)	13.38
Sulfonamide resin (100%)	2.00
Dibutyl phthalate	5.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	2.57
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	7.21
Methyl isobutyl carbinol	7.26
Toluene	22.05
Xylene	4.27
Total	100.00

Nitrocellulose lacquer enamel, Prussian blue:

Prussian blue	8.33
20 sec. nitrocellulose (100%)	4.91
½ sec. nitrocellulose (100%)	1.67
Butyrated dibenzoguanamine-formaldehyde resin solution (50%)	13.38
Sulfonamide resin (100%)	2.00
Dibutyl phthalate	5.00
Ethyl acetate	2.56
Normal butyl acetate	2.56
4-methoxy-4-methyl-pentanone-2	7.69
Ethylene glycol monoethyl ether acetate	2.57
Ethylene glycol monobutyl ether	4.27
Methanol	4.27
Secondary butanol	7.21
Methyl isobutyl carbinol	7.26
Toluene	22.05
Xylene	4.27
Total	100.00

(II) White colored gelatinous precipitates:

Nitrocellulose lacquer enamel, white	44.5
A mixture of isopropanol and normal butanol (isopropanol:normal butanol in the ratio of 3:7 by weight)	44.5
Water	11.0
Total	100.0

Example 14—Continued

Prussian-blue colored gelatinous precipitates:

Nitrocellulose lacquer enamel, Prussian blue	44.5
A mixture of isopropanol and normal butanol (isopropanol:normal butanol in the ratio of 3:7 by weight)	44.5
Water	11.0
Total	100.0

What we claim is

1. A method of preparing coating compositions of gelatinous particles having the characteristics that they are converted into sols in the course of drying after application to a surface and are capable of forming a continuous film upon the coated surface when dried, which comprises diluting nitrocellulose lacquer containing one or more colored substances and comprising nitrocellulose of high viscosity and a resin selected from the group consisting of butyrated melamine-formaldehyde resin, butyrated benzoguanamine-formaldehyde resin, butyrated melamine-benzoguanamine-formaldehyde cocondensation resin and butyrated dibenzoguanamine-formaldehyde resin, with alcohols selected from the group consisting of secondary butanol and mixtures of isopropanol and normal butanol, adding water with stirring to said mixture to form gelatinous precipitates of the mixture, and dividing the resulting mixture, by way of passing it through a screening means, into coarsely divided gelatinous particles of a size which is visible to the naked eye.

2. A method as claimed in claim **1**, wherein butyrated melamine-formaldehyde resin, butyrated benzoguanamine-formaldehyde cocondensation resin, or butyrated dibenzoguanamine-formaldehyde resin contained in the nitrocellulose lacquer is substituted partly by a member selected from the group consisting of ethyl cellulose, cellulose acetobutyrate, shellac, dewaxed dammar gum, ester urea gum, rosin, non-drying oil modified alkyl resin, butyrated formaldehyde resin, cyclohexanone resin, butyl urethane formaldehyde resin and sulfoamide resin.

3. A multicolored decoration paint of gelatinous particles having the characteristic that they are converted into sols in the course of drying after application to a surface and are capable of forming a continuous multicolored film upon the coated surface, when dried, prepared by mixing at least two kinds of coarsely divided particles which are different from each other in their colors and prepared by the method as claimed in claim **1**.

4. A multicolored decoration paint of gelatinous particles having the characteristic that they are converted into sols in the course of drying after application to a surface and are capable of forming a continuous multicolored film upon the coated surface, when dried, prepared by mixing at least two kinds of coarsely divided particles which are different from each other in their colors and prepared by the method as claimed in claim **2**.

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