



FAQS

FREQUENTLY ASKED QUESTIONS ABOUT MODEL PAINTS



vallejo

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1. General questions

1.1. What is the difference between Model Color, Game Color and Model Air?

Vallejo offers three different chemical formulas in these colors lines, each one created for a particular segment of the hobby market.

Model Color and Panzer Aces are creamy, highly opaque paints formulated principally for brush application, the ranges total some 246 colors, 14 Mediums, and 8 spectacular alcohol based metallic colors.

For the tabletop gamers, there are 105 colors, washes and inks in the Game Color Line, colors with less viscosity but which provide opaque coverage without loss of minute detail.

The 98 Model Air colors are formulated especially for airbrushing, although they are also frequently used for painting very small details with a brush.

In addition there are 8 Washes and 6 Mediums and Varnishes which are identical in all ranges

1.2. You have equivalency tables between your colors and other brands, but you do not include your artists colors in these tables, why is this?

The formula of our modeling colors is completely different, and although we employ the same pigments, it is not possible to give equivalent values in artistic ranges since even basic colors such as white, black, etc. would not be very useful to the model painter due to their high viscosity. The exception to this would be our Acrylic Gouache, which is similar to Model Color in viscosity, but the color range is limited to the classic colors used in design and fine arts.

1.3. In your artists' colors you identify the pigments, why do you not do the same in your model painting ranges?

With the exception of the basic colors, most of the tonalities in the model color ranges are the result of painstaking color-matching to achieve the very same shade employed at a certain time for weaponry and armour, and the naming of all the pigments employed for each color would take up too much space. However, on our web page we list all the pigments used in the manufacture of our model painting colors, even if we do not specify each individual combination.

1.4. Can Vallejo Acrylic Colors be mixed with other paints?

Yes, acrylics can be mixed with all other water-based acrylics and with all other water-based paints.

1.5. Are there acrylic colors on the market which are not waterbased?

Yes, and these solvent based acrylics cannot be mixed with water-based products.

1.6. What is the drying time of your acrylic colors?

Acrylics dry through the evaporation of their water content, and their drying time depends on the surface, the thickness of the coat of paint, the humidity in the work place as well as exterior weather conditions. In the case of Model Color and Game color, paint may feel dry to the touch very quickly, but maximum adherence to

the ground and resistance to nicks and scratches may not be complete until 48 hours or more of drying time. In the case of Model Air, the extremely fine coat applied with an airbrush will dry within seconds, so that further layers can be applied immediately.

1.7. Are Model Color or Game Color suitable for airbrushing if I dilute them with water or thinners?

You may, and some people do, but we have developed Model Air especially for use in an airbrush taking into consideration all the requirements for this application. Please also see 2.11 and 14. Health and Safety.

1.8. Where are your products manufactured?

Vallejo has been manufacturing acrylic colors for fine arts since 1970 near Barcelona, Spain. The factory only manufactures acrylics and water-based colors. Our paints for models and miniatures are exported world wide.

2. Model Color

2.1. Who invented Model Color?

Spanish model-painters, having worked with solvent based paints, began to use some of our fine-arts acrylics in the 1980ties; they eventually suggested changes and modifications in our formulas and we designed a product in accordance with their needs. After some years of development, this was to become Model Color. The product has a complicated chemical composition, and it benefits from our constant attention to new developments in technology, raw materials, changes in pigments and resins, regulations and environmental concerns.

2.2. Was Model Color the first acrylic color used for models?

Model Color was the first water-based acrylic used for model painting. Some other acrylic brands were available, but they were solvent based. Not all acrylics are water based.

2.3. What is the advantage of acrylic colors over solvent based products?

The most important considerations are health and environmental factors.

2.4. What makes Model Color different from other acrylic colors?

The colors were developed to have perfect adhesion even on non-porous surfaces such as metal and plastics. They are made with finely ground permanent artists' pigments and the best available resins, but there are many other ingredients in the formula that make this a very special product.

2.5. What is the difference between Model Color and Artist's Acrylics?

The ingredients are similar, but the formula is completely different. Most evident is the viscosity, Artist' Acrylics have a high viscosity, and this will show brushstrokes and allow volume, as it should. Model Color has a creamy consistency, is thixotropic and self-leveling; the low viscosity renders a perfectly flat, opaque and matte finish without traces of brushes strokes.

2.6. What is the shelf life of your Model Color paint series?

The shelf life depends on the storage conditions. Our colors are formulated to withstand freezing and thawing. Normally the colors should be fine even after 4-5 years. The colors do not "spoil" and unless exposed to extreme heat will not dry out either. But heavier pigment tends to settle, and the small bottle may cause some difficulty in restoring the balance in the consistency. If rolling the bottle does not help, and shaking it even less, apply pressure to the bottle and roll it and shake again.

2.7. I have a problem with Model Color, it does not seem to go on smoothly.

The pigment may have settled too much. Add two drops of Crackle Medium (70.598) and mix the contents of the bottle by rolling it between your hands.

2.8. I have some paint I purchased years ago, and pigment has separated from the binder. How can I best restore the original mixture?

The best way to stir the product is not so much by shaking the bottle, as by squeezing the bottle and then rolling it between your hands. Please us this method and try the color on some other surface first to see if the blending has been successful. Also see point 2.7. for trying to restore balance between pigment and binder.

2.9. Do I have to use a Thinner with Model Color?

You may want to use our Thinner (70.524) if you are painting very small details.

2.10. Can I use Model Color in an airbrush?

For use in airbrushing, we especially developed Model Air, it has the specific chemical composition and the right viscosity- no thinner is needed - but many artists use Model Color in airbrushing for reasons of color range, opacity and availability. Please also see points 5.12 and 14.

2.11. I just purchased some bottles of Model Color, and on two of them the label says: do not spray. The other bottles do not have this advice. Is this an omission? Should this be on all the Model Color bottles?

No, the phrase is printed only on some labels in compliance with California Proposition 65, which requires this instruction for all colors which may contain a trace of Cadmium. A total of 38 of the 180 colors of the Model Color line carry this advice; for more information please see 14. Health and Safety, also see our web page www.acrylicosvallejo.com under Health and Safety and Pigment content per color.

2.12. Can I mix Model Color with Model Air or with Game Color?

Yes, our products are completely compatible with one another, but the different viscosities may affect the end result. Mixing should be done with care, and our mixing bottles may be helpful to get the right proportion.

3. Panzer Aces

3.1. What are the Panzer Aces Colors?

Panzer Aces colors are 48 tonalities especially selected by the editors of the Panzer Aces magazine. The Editors, who specialize in WWII weaponry and uniforms, considered these colors essential for the correct painting of certain camouflages of the Waffen SS in World War II.

3.2. How are these colors different? Are Panzer Aces Color not the same as Model Color?

They have the same chemical formula as Model Color, i.e. the viscosity, opacity and other chemical properties are the same, but the colors are different: based on historical research, they are a very true match to the originals.

3.3. I bought a set of 16 Panzer Aces Camouflage colors which has both the name Model Color and Panzer Aces on the label, is this part of the series?

These 16 colors were chosen by the Panzer Aces editors for some additional camouflage patterns, but since they already existed in the Model Color line, they were only given a special label. You will find these colors in the complete Model Color series, but the set indicates how to use them in the camouflage patterns of Panzer Aces.

3.4. Where can I obtain the Panzer Aces magazines?

The best source for dealers would be to consult the publisher, Accion Press, S.A. Madrid, Spain, accionpress@euromodelismo.com. In the United States, the magazine was called Armor, the name is now again the original Panzer Aces, and it is distributed by MMD Squadron, www.squadron.com.

4. Game Color

4.1. What is the difference between Vallejo Model Color and Vallejo Game Color?

Game Color was designed for painting War-game miniatures, and the size of these figures and their minute details demanded a more fluid consistency; the viscosity of the 79 colors of the basic range of Game Color is 1500-4000 centipoises as opposed to the Model Color viscosity of 4000-6500 centipoises. The 8 Washes and 10 Inks have even less viscosity, they are very fluid.

4.2. Are the new extra opaque colors in Game Color similar to Model Color?

Yes, for these 16 Extra Opaque colors, the Model Color formula was used, since the viscosity of this formula affords the increased opacity needed for a quick basecoat or foundation color.

4.3. Game color seems to dry more quickly than Model Color, is this correct?

Yes the drying time may be slightly less. The War-game figures are handled frequently, it was advisable to employ a harder resin, in this case a 100% acrylic binder, which is more resistant to scratching and dries more quickly.

4.4. Are the colors in Game color the same as in Model Color, only more liquid?

No, we produced a selection of colors designed for Fantasy Figures, and although the basic colors (red, blue, etc.) may be alike, the major part of the range will not have any match in Model Color, always excepting the 16 colors in Extra Opaque series, which have exact equivalents in the Model Color range.

4.5. Is Game color safe for use by children?

Yes, the product can be used by children over the age of 3, it was formulated with that purpose. Beside the ASTM certification, Game Color also has obtained the EAN Certification, see also 14.5 (Health and Safety).

4.6. Can I use Game Color in an airbrush?

Yes, but you might want to dilute Game Color with our Thinner because you may find that the formula of Game Color will dry more quickly in the airbrush than Model Air, which has been especially created for air brushing.

4.7. What is the difference between the Game Color Inks and the Washes?

The Game Color Inks are more highly pigmented than the Washes, and contain more acrylic resin. This makes the inks more resistant to handling, they have more body and can be thinned down and mixed more easily. The washes are, as the name implies, very liquid. Both products are transparent and used for shading and blending, and to augment the details and deepen the shadows. When applied all over the surface of the model, they will enrich and modify the final color.

4.8. When I shake the Game Color paints thoroughly, before using, and then take off the cap, paint starts to bubble out of the top and goes to waste. Is there a solution to this problem?

Shaking the paint creates foam- the oxygen in the bottle (between cap and paint) mixes with the paint, and expands the volume, so that it bubbles over when you open the bottle. The correct way of mixing the product is rolling the bottle, between your hands, or on the table. But the foam will subside after a few minutes, and no harm is done.

4.9. Can the Game Color Metallic Colors be varnished?

Yes, all the Metallic Game Colors can be varnished with our regular lines of Acrylic, Polyurethane and Aerosol varnishes. See below, 6.3.(Metallic Colors).

5. Model Air

5.1. What is the difference between Model Color and Model Air?

Model Air has been especially formulated for airbrushing. The product is very liquid, with a maximum 20 viscosity of only 150 centipoises, and the color can be applied directly from the bottle.

5.2. Must I use a thinner for the Model Air Colors?

Model Air can be applied without using Thinners, but even

so, we find that almost everyone has the habit of thinning the product no matter the size of the needle.

5.3. If I want to use a Thinner, what product and in what proportion do you recommend?

Our airbrush specialists claim that a thinner is not necessary, but they consider it can be used up to a ratio of 1:3. The Vallejo Thinner (Ref. 71.061) does not change the adherence or coverage of the Model Air paints.

5.4. I have read about the use of the Drying Retarder with Model Air, and also of the Airbrush Cleaner.

Some airbrush specialists use a few drops of these products or of distilled water to improve the flow and delay a little the need to interrupt the process of painting to clean the airbrush during use, but this may also affect the quality of the sprayed paint and is a question of practice and technique.

5.5. Should I use a Primer before applying the color?

We always recommend the use of a primer, it prepares the surface and improves the adherence of the paint film. Please see some information about primers under that heading, 7.(Primers).

5.6. How many coats of paint will I have to apply?

Some colors cover more than others, but usually between three to four coats of Model Air will be needed for a perfect finish. You will want to wait for at least 20 minutes in between coats, depending on the humidity in the workplace.

5.7. Can I use a hair dryer to speed up drying?

A hairdryer can be used, but be careful not to aim direct blasts of hot air at the model, and use a low temperature setting.

5.8. How long do I have to wait before spraying on the final coats of varnish?

You should be able to apply a coat of varnish about 20 to 30 minutes after the coats of paint have dried, and about three coats of varnish will give best results.

5.9. Will Model Air work on metal surfaces?

Model Air will work on metal surfaces, but on metal it is especially important to use a primer first.

5.10. I want to have a satin finish, can I add some of the varnish to Model Air to obtain this?

Yes, you can add a few drops of varnish right into the cup of the airbrush.

5.11. I want to airbrush with Vallejo colors on a surface primed with a Humbrol base, is this possible?

Yes, and this has been recommended by our advisors, they inform us that the coating of acrylic color on enamel (solvent based products) protects the enamel surface from possibly aggressive products like other solvents, solvent based filters, etc.. Also, if you work with enamels it has been suggested you should use an acrylic varnish for a final protective coating.

5.12. Model Air is manufactured especially for airbrushing. Do I need to wear a mask when I use the product?

Model Air contains no harmful pigments, but wearing a mask when airbrushing is always a good idea. Anything foreign in the air we breathe, be it dust or pollen, is best not inhaled, and pigment particles, even if not toxic, are still foreign matter.

5.13. Can you tell me which is the minimum size nozzle required for the use of Model Air to avoid further thinning?

The nozzle size to use depends more on the size of the model. Please see below.

5.14 What size of nozzle should I use for painting a model size 1:220?

Some artist use a needle as small as even a 0.15 but we would recommend a needle size 0.2 or more. The size of the needle also depends on the size of the model. One of our specialists recommends the following scale/size ratios:

Model Size	Recommended Needle Size
1:220	0,15 mm.
1:72	0,25 mm.
1:35	0,35 mm.
1:16	0,35-05 mm.

For models larger than 1:16 we recommend nozzles size 0,5 mm. to 1,2 mm.

5.15. What pressure should I use when airbrushing with Model Air?

We recommend PSI of about 20-25 (1.38-1.66 Bar) or 0,5-1 kgs.

5.16. How large an area can I cover with Model Air when applying the color with an Airbrush?

We estimate that you can cover approximately 50 square centimeters with one 17 ml. bottle.

5.17. Should I use alcohol to clean the airbrush?

Alcohol will work, but we recommend the Vallejo Airbrush Cleaner, which besides alcohol contains other ingredients to clean, lubricate and protect the airbrush mechanism. Pour the cleaner right into the cup, raise the compressor pressure to 1-1.5 kgs. and spray on tissue paper until the mixture comes out clean.

5.18. My airbrush keeps clogging up, what can I use to remedy this?

Paint will dry faster in an airbrush because of the airflow through the nozzle. And if you stop briefly, the nozzle tip will have to be cleaned. Always run some Airbrush Cleaner through the airbrush, and airbrush unto paper until the spray comes out clear. Please see our webpage and leaflets for more detailed instructions.

6. Metallic paints

6.1. Is it true that metallic paints should not be varnished?

Some metallic paints react against the varnish, and others are dulled by it, since the metallic quality of the pigment is more brilliant than the shine of the varnish. In general, it would be easier to say that you should not varnish metallic paints, but we can specify further below.

6.1.1. Varnishing Water-based Metallics in the Model Color and Game Color lines.

These golds and silvers have a softer glow, they are part of the iridescent-metallic line of products, and their brilliance can be increased by the application of a high gloss varnish.

6.1.2. Varnishing Water-based Metallics in the Model Air line.

Some of the metallic colors in the Model Air range are made with aluminum pigments, which will not rust in a water base, but react badly against varnish. Their metal pigment will only be dulled by applying a varnish. These colors should not be varnished at all. The aluminum pigmented colors are the Model Air references from 71.062 to 71.068. The Model Air iridescent colors with reference numbers 71.69-71.073 can be varnished.

6.1.3. Varnishing Alcohol-based Metallics:

In the Model Color line, we present a special range of metallic colors in 35 ml. pots which consist of colors manufactured with actual metal particles. These alcohol based metallic colors have such a strong shine that a varnish would actually make them duller, but it will not harm them. They can be varnished for reasons of protection, but no need, and they will be more brilliant without varnish.

6.2. I purchased your alcohol-based metallic Gold 70.791, but it has all coagulated at the bottom and has a dirty brown color. These alcohol based metallic pigments will tarnish immediately if in contact with water, and even contact with a paintbrush which has been rinsed in water and still moist may cause the paint to rust and coagulate, which causes the dark brown color. The labels states "Brushes clean in Alcohol" and the colors are available only in the 35ml. pot with the child-proof label.

7. Primers

7.1. Why do I have to use a primer?

Primers, also known as sealers, are formulated especially to provide the correct undercoating to bind the paint to the surface of the model. They are an important first step in the whole procedure of model painting.

7.2. What is so different about the new Vallejo Primer?

Until now the most commonly used primers were aerosol sprays, this being the quickest and most effective way to cover the model with an extremely fine base coat. But Aerosols are not always reliable, the paint in the cans, even if water-based, needs to be composed with volatile ingredients which allow it to be sprayed, and in use the ope-

ning of the spray nozzle frequently plugs up and is difficult to clean. Vallejo has formulated a revolutionary primer with an extremely durable, fine resin of polyurethane and acrylic. This primer can be applied with an airbrush, which is most precise for fine details, and can be cleaned easily after use. The new primer is self leveling and can also be applied easily with a soft varnishing brush.

7.3. Can I dilute the new Polyurethane Primers for use in an airbrush?

They seem thicker than Model Air. The new primers are formulated for use in air brushing. Our expert suggests a nozzle opening of 0.35 mm and with that no dilution is necessary. The special quality, the polyurethane component, which gives it the strength and the resistance to scratches, etc. will be diminished by diluting the product, but the product can be diluted with our Thinner or even with distilled water. To keep its special qualities, the less dilution the better.

7.4. Is your Model Air color 71.097 the same product as the new primers?

No, this is simply a grey color, created years ago in the Model Air Line. We are changing the name to Basecoat Grey (primer grey) precisely in order to avoid misunderstanding

7.5. Why is it sometimes so difficult to obtain the Aerosol primers?

International shipping regulations control the transport of aerosol primers, they cannot be shipped by air, and most ocean freight companies will handle only complete containers of these products, a quantity which not all distributors are willing to order and stock, so that imported Aerosols may be scarce at times.

7.6. Can I apply the Vallejo Aerosol primer on a surface of polyester putty?

The Vallejo Aerosol primer can be sprayed on polyester and other plastic surfaces without any problem, the formulas are compatible.

7.7. Is the Vallejo Aerosol primer compatible with a water-based two-component aerosol color for application on a vehicle body? I want a matte finish and protect the colors against the sun. Our solvent based aerosol primer can be applied without problems as a basecoat for further painting with other water-based colors.

7.8. Can I paint over your Aerosol Primer with all other paints? You can paint over the primer, once thoroughly dry, with all water-based colors. Solvent based products may affect the base coat. On the other hand, you can paint with water-based acrylics on all solvent based primers.

8. Pigments

8.1. Are the Vallejo pigments the same pigments as used in the Vallejo colors?

With one or two exceptions, we have used non-micronized natural earth and oxide pigments. These natural pigments have some impurities which render them perfect for the

creation of dust, mud and rubble. For our colors, we use exclusively fine arts pigments, which are micronized for optimum color value and purity.

8.2. I have tried to dilute your pigments with thinner to make a wash, but I find that they seem to be difficult to dilute completely. Is the particle size too large?

You may be accustomed to micronized and synthetic iron oxides, which have a smaller particle size. Since we manufacture ready made washes, we did not contemplate the use of pigments for this purpose, and indeed chose natural earths as most indicated, see 8.1 above. As an example of a micronized pigment, we can recommend our Green Earth (73.111) for a wash.

9. Water and Stone (Diorama Mediums)

9.1. Can I add water to the various gels for Water Effects?

I have tried this and it gets very liquid and has not the required gloss effect - too much water? The gels should not be diluted with water. They can be diluted with Ref. 26.201 Transparent Water, and will not change consistency or texture.

9.2. How should I apply the Water Gels, I tried it with a brush but you can see the tracks of the brush - any solutions?

The gels for water effects are best applied with a painting knife or spatula.

9.3. I tried to make a Waterfall with your Transparent Water (26.001) by applying it on a glass plate, but I cannot seem to peel it off as it shows in your leaflet. What went wrong?

You may have left it on the glass too long. After several days, the adhesion of the Gels may become too permanent depending on the surface. Try applying the product on a sheet of polyester or acetate, by bending these, the film can be peeled off easier. See 9.4

9.4. Does the humidity and temperature affect these gels?

Extreme conditions may affect drying; generally speaking the products are best used in moderate temperature of 22° Celsius, with humidity of 70%, and are easily peeled from a non porous surface after a drying time of 24 hours.

9.5. How do I change the color of the water?

Depending on the effect desired, (Ocean, lake or river) the bottom of the lake or river would be painted black, green, blue or - in the case of a river with pebbles and stones, white and grey, since this will affect the color of the transparent gel. Water effects can also be colored further with a small quantity of Model Air, which due to its low viscosity makes it ideal for tinting the gel.

9.6. I bought your acrylic gel "Mediterranean Blue", ref. 26.202 for creating a water effect on a 1 m square diorama. To create an effect like the one seen in your leaflet, how thick should I apply the layer of gel?

The gel photographed for our leaflet has been applied with a painting knife and the surface is approximately 1 centimeter thick, with peaks rising to 2 centimeters. More depth can be achieved by allowing one layer to dry before applying the next. Drying depends on the humidity in the air, and can be very slow, from several days or even weeks under extremely humid conditions.

9.7. How do I color Still Water?

We recommend you use Model Air, since this will leave the product slightly transparent. We would add this to the product in gentle way, to avoid bubbles caused by rapid stirring. For more color and a more realistic shade, modelers paint the bottom of the surface of the area to be covered by Still Water, this gives more depth and a more realistic tint.

9.8. What is the composition of Foam and Snow?

This product is presented in a bottle with an eyedropper, so that it can be applied directly on waves or trees. The chemical composition is white pigment and resin in a formula which gives it the required soft texture.

10. Varnishes

10.1. I notice that you have different labels on some of the varnishes. Have you changed the formulas?

No, and in fact many of the Auxiliary Products have the same formula for all our color ranges, and in order to avoid that our clients need to stock three different references for the same product, we have recently unified the labels of our Varnishes, Mediums and some of the other auxiliary products. This new presentation may take some time to arrive at your local dealer, but you will eventually see that the labels for the varnishes and some of the mediums all have the same information, and are identical in all product lines.

10.2. I find the matte varnish dulls the color too much, and the satin varnish is too shiny. Should I apply one over the other?

No, because the varnish you apply on top will predominate. We would suggest you mix the matte and shiny varnish and apply on a test surface until you achieve the desired effect.

10.3. I have air bubbles in my varnish, what causes this?

It is important not to shake the varnishes, since it may take several hours for bubbles to disappear. Mixing should be achieved by gently stirring the product.

10.4. Why should I use the new polyurethane varnish?

The advantage of this varnish is perhaps best noticed when varnishing larger surfaces. The varnish is manufactured with a new resin, a hybrid of Urethane and Acrylic, which results in a more resistant coating, self-leveling and easier to apply than a varnish manufactured with 100% acrylic resin. Basically it has the same properties as our new Polyurethane Primers, can be applied with a brush or an airbrush, and utensils can be cleaned easily after use.

10.5. I used your Satin Varnish, Ref. 70.522 but find it still too glossy on this model. How do I remove it without damaging the paint itself?

If you use alcohol or our Airbrush Cleaner, you may find that you are also removing the paint underneath. It would be better to varnish over the coating again with our Mat Varnish, 70.520.

10.6. Is there a way to remove a varnish without damaging the paint underneath?

We manufacture a removable varnish, which can be eliminated with ammonia which does not affect acrylic paints, but will remove this special varnish. Our Removable Varnish in 60ml. bottles is available in Gloss, Satin and Matte. (Ref. 26.515, 26.525 and 26.550).

11. Auxiliary Products

11.1. What is the use of your Gloss Medium, can I varnish with this product?

No, the Mediums are never to be used as a varnish, they are not suitable for this purpose. The Mediums (Gloss and Matte) are intended to be mixed with the colors or the pigments, to change their qualities, to thin them, or to increase transparency or gloss without losing adherence.

11.2. I have used Mat Medium to mix with the Pigments, but I find it dries too quickly. Any solution?

You might want to try to add some Drying Retarder, but perhaps it would be easier to use the Glaze Medium, Ref. 70.450, which is especially formulated to dry more slowly.

11.3. What is Glaze Medium?

Glaze Medium, Ref. 70.540, is used in model painting to slow down drying time and facilitate blending of colors. It is also used as a binder for pigments, since the slower drying of this medium permits the painter to move the pigments into the desired place more easily.

11.4. How does Glaze Medium work?

By mixing Glaze Medium with a color, the color will dry more slowly, become more transparent, and settle more easily into the folds and creases of the figure; layering and blending and color transition is made easier. The proportions of the mix depend on the effect desired, but should not be in excess of 50%.

11.5. How can I speed up drying time of Model Color?

If this is necessary, apply dry heat by using a hair dryer at low temperature and at some distance so as not to disturb the paint film by the force of the air.

11.6. How can I slow down drying time?

The Vallejo Drying Retarder, Ref. 70.597 slows down the drying of the colors, but should be used sparingly, at not more than 5% of total volume. The Thinner, Ref. 70.524 will also slow down drying to some extent. These products will not alter the basic composition of the colors. The addition of water (preferably distilled water) will also slow down drying, but will weaken the adhesive quality of the paint.

11.7. I use the Drying Retarder Vallejo Model Color, Ref. 70.597. Do you have this product in the Model Air Line?

This product is the same in all our color ranges, including Model Air, and we are now unifying the labels so that these Auxiliary products are not duplicated.

11.8. How do I use the Drying Retarder? The consistency seems very thick? More like a gel?

Yes, the Retarder (70.597) is somewhat like a gel. You can apply it directly to the surface you want to paint, or mix a few drops with the color (not more than 5%).

11.9. Why should I use a thinner rather than water to dilute Model Color or Game Color?

The Vallejo Thinner (Ref. 70.524) contains ingredients, including acrylic resin, which will not weaken the adhesion and composition of the colors.

11.10. Is there a difference between the Thinner in Vallejo Model Color, Ref. 70.524 and Vallejo Model Air, Ref. 71.061?

Can I mix these products? There is no difference, they are the same product, but with different labels due to different product lines, which are now being unified. Please see also 10.1. The Thinner is especially recommended for use with Model Air.

11.11. How much Thinner should I add to Model Air?

It depends on the size of the nozzle, but Thinner should not be added in excess of 25/30%.

11.12. What is Plastic Putty?

Plastic Putty (70.400 and 70.401) is a filler, to correct small irregularities in the model before painting. It is a water-based product, which dries to a stone hard finish.

11.13. How do I remove the paint from the model?

Recently applied paint may be removed with alcohol and many modelers prefer to use the Airbrush Cleaner, since the lubricants it contains cause it to apply more smoothly than straight alcohol. Once the paint has thoroughly dried, you may need industrial paint remover to remove it, but these may damage the surface of the model. Best try patient scrubbing with Alcohol and/or Airbrush cleaner first.

11.14. I have bought your washes for models and would like to know with what I should dilute them?

The washes have been formulated so as not to need further dilution. They are made to remain in the folds and creases of the model, and be easily wiped off the level surfaces. They are available in 8 shades, but if you still need a lighter tone, you may dilute with our Thinner. If you use water, please use distilled water, since tap water may contain various types of natural but relatively harmless contaminants such as calcium and other substance due to local geological conditions which may affect the delicate film of a wash.

Please also see our catalogue, pages 25, 26 and 27 for this and other auxiliary products.

12. Color names and equivalencies

12.1. The color 826 German Camouflage is not the right shade. In your printed color charts it shows as a red brown, which is right for German vehicles, but in fact this color is more like an umber shade without a red tonality. In commercial printing, it is not always possible to achieve the correct tone. For exact color-matching, it is best to look for the equivalent in the official Federal

Standard and RAL tables. You can also download more information under "Equivalencies" on our web site, and we provide hand-painted color charts to our dealers for further color matching.

12.2. The Model Color reference 70.894 is shown on your color chart as 'Russian Green' but on the bottle it is shown as 'Cam. Olive Green, is this a mistake?

This reference was one of the first colors we manufactured for models and miniatures, now some 17 years ago, and at that time our advisers suggested this shade as "Russian Green". It is indeed a match for some of the Russian uniforms used in WWII. But as we progressed to manufacture an ever widening range of colors, always following the advice of experts, and careful to match RAL, Federal Standard and RLM equivalencies, we found that this particular green 70.894 was also a perfect match for RLM 80, Olive Green. And while uniforms have many different shades, The RLM match is the most specific, and it seemed correct to change the name accordingly.

12.3. You have a color in the Model Air 71.052 line called German Grey, but it is not the same color as Model Color 70.995 called German Grey, which is much darker. Is this a mistake?

We followed the advice of specialists when formulating most of the colors, especially those of armor, uniforms and military equipment. When there is data using a known color system, such as RAL or RLM, this is fairly easy, but in some cases, and especially with the green and greys in all their variations and shades there is a great variety of opinions and different documentations. But we will add the description "Dark" to the Ref. 70.995 in future printing.

12.4. I want to try the Model Air range of paints, but want to match Citadel's Shadow Grey. Any suggestion would be appreciated.

In the Vallejo Web, you can find "Equivalencies" a leaflet which can be downloaded for quick reference. The easiest way to match any color is by using the corresponding Federal Standard or RAL color number. If the color to match does not have a Federal Standard or RAL equivalent value, a match can be found by brand in the internet, Color Match 1.0, a very good source of information: http://colors.silicon-dragons.com/full_line.php.

13. Vallejo brushes

13.1. I have just started this hobby, what kind of brushes should I use? We have a new Starter Set, which offers 2 round brushes and a flat brush for dry-brushing. These brushes are made of first quality Toray, and offer excellent value.

13.2. Are the Toray brushes in your Starter Set the same quality as your Toray series P510 and P515?

The new Starter Set is made of first grade Toray, but we think that the Toray in our 510 and 515 series is unequalled in any other line.

The Toray Brushes we offer are the very best available, and stocked in all sizes, from 10 zeros for the tiniest detail, to a large size 7 for a quick basecoat application.

13.3. What is the difference between your Toray Brushes 510 and 515?

The hair employed for the brushes of these two references is the same, but the brushes in Series 515 have a triangular handle which tires the hand less and gives more precision to the miniature painter.

13.4. Why should I use a sable brush?

Toray (synthetic hair) makes for a fine, all round brush, but nothing will equal the precision and capacity to hold the paint which you obtain with a natural hair sable brush. For working on fine details, sable is incomparable.

13.5. What is the RK 25 brush I hear about?

This brush has been called the best brush in the world. The Tajmir Kolinsky brush uses only the most choice hair of this particular kind of sable, and the results of this selection and the extraordinary care and precision in the manufacture of the brush are in fact noticed immediately by everyone who uses the RK 25.

14. Health and Safety

14.1. How safe are your colors?

All our colors have obtained the ASTM D-4236 certificate, and all our raw materials comply with the REACH requirements.

14.2. What is the meaning of the Model Color label inscription: Does not Contain As, Cd, Co, Cr, Hg, Pb, Sb and Se?

These are the international symbols for chemicals which are known toxic agents. Please also see our webpage www.acrylicosvallejo.com for more information about Health and Safety.

14.3. If Model Color paints are waterbased and do not contain harmful solvents, why are some colors labeled: Do not spray? A few of our Model Colors contain a very small percentage of Cadmium, and are so identified on the label. A complete listing can be found on our web site under Health and Safety. The pigment Cadmium is considered harmful only when dispersed in the air, and California proposition 96 requires the label to carry the warning "do not spray".

14.4. Can I airbrush with Model Color?

Our range of Model Air has been developed especially for airbrushing, and employs only pigments which can safely be used in an Airbrush. Where Model Air is not available, people do use Model Color with thinner, in this case please check the label, because the Model Color range contains 38 colors which contain traces of Cadmium, please see 14.3 above.

14.5. Is Game Color safe for use by children?

Yes, it is. The use of Game Color for painting the figures used in table games has been the principal factor considered in its formulation. Beside the ASTM certification, Game Color has obtained the EN 71/3 certificate, which means that it can be used safely by children, although it is not to be sold as a toy. The complete certification reads: Conforms to EN 71:1994/3 "Safety of Toys, Part 3, "Migration of Certain Elements", which permits the colors to be used by children over the age of 3 years.

14.6. What is ASTM D-4236?

ASTM D4236 Standard Practice for Labeling Art Materials for Chronic Health Hazards describes the standard procedure for developing precautionary labels for art materials to provide

chronic health hazard and precautionary statements based on knowledge that exists in the scientific and medical communities. These statements concern hazards known to be associated with a product or product component(s) when it is present in a physical form, volume, or concentration that in the opinion of a toxicologist has the potential to produce a chronic adverse health effect. This practice applies exclusively to art materials packaged in sizes intended for individual users of any age or those participating in a small group, and does not apply to products appropriately labeled for known chronic health hazards. Also, this practice does not specify test methods for determining whether a substance or product presents adverse chronic health effects. Labels should include the signal word WARNING, list of potentially chronic hazards, name of chronically hazardous component(s), safe handling instructions, list of sensitizing components, information sources, labeling content and product size, and other supplementary information.

14.7. What are REACH requirements?

R.E.A.CH is a new European Community Regulation on chemicals and their safe use. It deals with the Registration, Evaluation, Authorization and Restriction of Chemical substances. The new law entered into force on 1 June 2007. The aim of REACH is to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances. One of the main reasons for developing and adopting the REACH Regulation was that a large number of substances have been manufactured and placed on the market in Europe for many years, sometimes in very high amounts, and yet there is insufficient information on the hazards that they pose to human health and the environment. There is a need to fill these information gaps to ensure that industry is able to assess hazards and risks of the substances, and to identify and implement the risk management measures to protect humans and the environment. The registration of these substances only concerns to the manufacturers and importers of chemicals and not to the intermediate users. The paint manufacturers are considerate intermediate users of chemicals. Reach's obligations for intermediate users are: The paint will be manufactured only with registered or authorized substances. Communicate our use of the raw materials employed.



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