

Varnishing Paintings

Oil Painting Instructional Handout by Jo Watson©
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Why Varnish a Painting?

- To protect the paint from pollution like dust, smoke, oil from cooking, acids in the air
- To refresh the surface of the painting and bring back the vibrancy of the oil paint
- To keep the surface looking fresh and new over time. Final varnishes that have yellowed or become dirty can be removed with mineral spirits or turpentine and a new coat of varnish applied.
- For ease of dusting and cleaning the surface of the painting
- To give the surface of the painting an overall sense of unification

Why Use Temporary Varnishes

Paintings need to dry or cure for 6-12 months (depending on the thickness of the paint and the type of oil paint used). Rarely do artists keep a painting sitting around for a year before they display it. Temporary varnishes protect the surface of the paint while allowing the paint to further dry/cure. With a temporary varnish a painting can be framed and displayed, even sold. However, a final varnish still needs to be applied at the proper waiting time for complete protection.

“Oiling Out” a Painting

Often, when oil paints dry, a previously glossy and vibrant color dulls and the surface becomes matte in appearance. This is called “sinking in” and is the result of the oil binder being absorbed into both the support gesso and the binder oil curing with the pigments. Sometimes it is hard to judge whether the color intensity or hue is correct when adding additional layers or corrections to a partially dry painting because of this “sinking in” effect.

If a glaze was applied, or additional medium added to certain areas, they might retain their glossy appearance resulting in a painting with a very uneven surface--some areas matte and some glossy. In addition, all oil paints are not equal in their oil content. Those with more oil per pigment will dry glossier. Applying a temporary varnish such as retouch will improve the situation but does not always even out these matte/gloss differences. Neither does applying a final varnish. Some artists avoid glazing at all because of this appearance issue.

To resolve this surface issue one can “Oil Out” a painting before making finishing touches or before the varnishing stage. One can think of the process as putting a thin layer of binder oil between the layers of paint or between the painting and the varnish layer. This thin layer evens out the appearance of the surface allowing the final varnish

layer to sit on top instead of bind directly to the paint layer itself. (According to the Gamblin Oil Company website, adding a binder oil layer between layers of paint is preferred to adding a layer of retouch varnish between them because the binder oils can form chemical bonds and become one layer, whereas the varnish layer just sits between layers of paint.)

To “oil out” a painting a fast drying painting medium such as Liquin or Galkyd (or Galkyd Lite) is mixed 1:1 with odorless mineral spirits and applied to the surface of the dried (to the touch) painting. This treatment can be given to the entire painting, or just to the area that needs correction. The mixture is left to penetrate the surface for approximately 2-3 minutes and then the surface is wiped with a lintless cloth to remove any extra mixture. One can continue painting the area at that time, or leave the treatment to dry. When dry to the touch, a temporary varnish, and at the appropriate time (usually 6-12 months) a final varnish can be applied.

Safety--Odors/Health/Flammable

Use caution with varnishes and mediums. Often, they contain volatile components and solvents that evaporate into the air causing both a health hazard and a safety hazard. ALL varnishes are toxic to humans to some degree, depending on the ingredients, their properties and the type and length of exposure. They are also flammable and combustible, meaning they can start a fire or explode. (If you smell the varnish, that means some of its components have evaporated into the air! Even if you don't smell anything, there may be some components that in the air). The following is not meant to scare you, but to make you more informed about the materials you are using, so that you use them properly and follow precautions. For full disclosure of products you are using you must obtain the Material Safety Data Sheet which by law must inform you of toxicity and dangers associated with the product.

Solvents on the skin:

- Dissolve the natural oily barrier and can cause inflammation, burning and irritation
- Can penetrate into the deeper tissues and blood stream allowing the toxic chemical to reach and affect other organs of the body such as the brain, lungs, liver and kidneys.

Solvents in the Air:

- Can cause inflammation, burning and irritation of the eyes, nose, throat and lungs.
- This irritation can lead to an increase in the number of colds and respiratory infections, as well as chronic bronchitis after years of exposure.
- Solvents inhaled through the respiratory system can be absorbed into the bloodstream and travel to organs such as the brain, liver and kidneys.

Solvents and the Nervous System:

- In the brain, acute exposure can cause symptoms such as dizziness, headaches, irritability and nausea, and with high enough exposures, even unconsciousness and death. Long term chronic exposure can result in a variety of subtle changes in the brain resulting in memory loss, depression, insomnia and psychological problems.
- Exposure to the sensory and motor nerves of the body can cause damage as well, resulting in numbness, tingling, weakness or paralysis.

Solvents in the Organs of the Body:

- The liver and kidneys, because they are the detoxification and elimination organs, are frequently damaged (they get inflamed and irritated just like the skin)!
- Some solvents are carcinogenic (they cause cancer). Because varnishes and mineral spirits are actually made up of many compounds, you don't always know how safe they are. Gamsol and Sansodor have gone through extra distilling processes to remove the most highly toxic components.
- Solvents may affect the reproductive organs and cause birth defects. Because one cannot do research in this area, the evidence is mostly anecdotal and retrospective, but women who are trying to become pregnant, or are pregnant, are advised to avoid solvent exposure.

Fire and Explosion Danger:

- Products and/or solvents that evaporate easier into the air are a greater fire hazard. More gets into the air faster, and is therefore available to burn. Most varnishes have significant odor associated with them, therefore a lot of solvent is evaporating into the air.
- If a product or solvent is more flammable, i.e. it has a lower flash point (the temperature at which a spark or flame will ignite the vapor), it is also a greater fire hazard. Check the container, as the instructions and information on the product will often give information about flammability.
- Odorless mineral spirits has a slow evaporation rate, and usually a flash point above 100°F, making it *safer*. However, consider the surroundings whenever using any solvent: hot weather, sun heating up metal surfaces, nearby furnaces and water heaters, static build-up in cold, dry climates, etc.
- ALWAYS use varnishes and solvents in WELL-VENTILATED areas, away from sparks, flames, static electricity and sources of heat!!!!

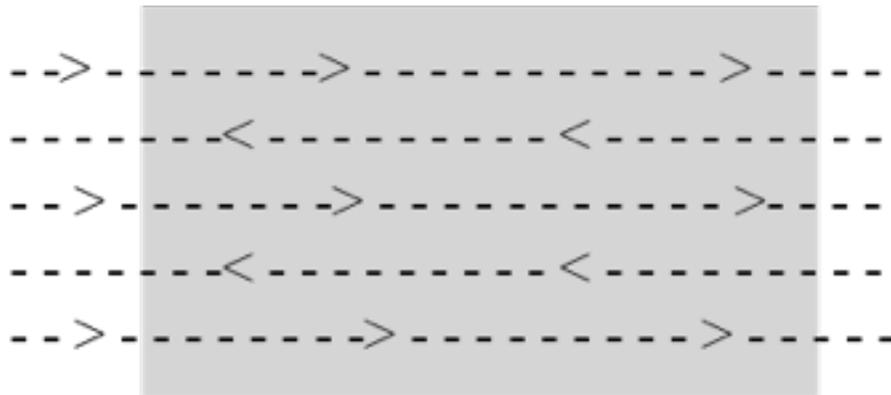
Technique:

There are two methods of applying a varnish--

Spray: Many choose to use a spray can to apply varnish because of the ease of use. However, using a spray requires a very well ventilated area and careful protection of surrounding areas.

How to Use: Shake the can as directed. Check for "spitting" (irregular spraying) by testing on newspaper or a paper bag. Make sure the can is spraying a very fine, even mist before applying the varnish to the surface of your painting.

Spray in an even pattern over the surface:



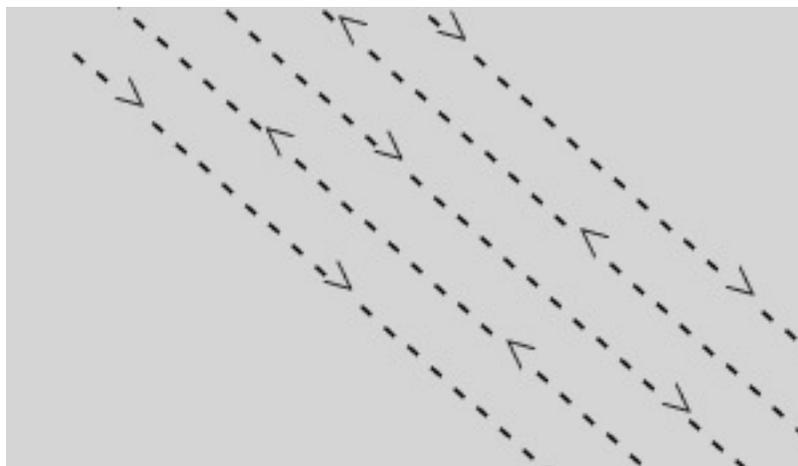
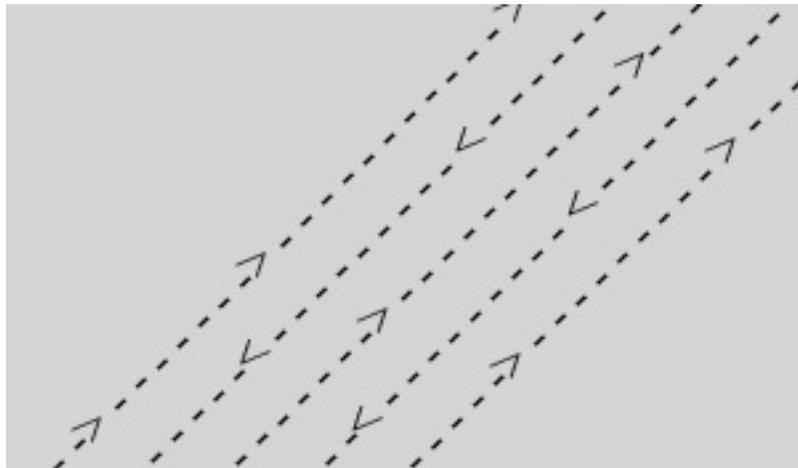
After you are done, make sure that you turn the can upside down clear the nozzle of varnish by spraying against newspaper or a paper bag until no more varnish comes out!! (Very important--if you do not do this, there is a good chance that the varnish in the nozzle will harden and you will not be able to spray at all the next time you go to varnish with the can i.e. you waste all the remaining varnish in the can because you can't get it out. I have had some luck removing the small plastic piece at the top of the can and soaking it in mineral spirits to clear it of varnish, but you cannot count on this working!)

Check the surface of the painting for any dirt, pet hair, etc., and place in a draft-free environment to dry.

Brush: Applying varnish with a brush requires less preparation of the area to be used to varnish. Often a bed of newspaper is all that is required.

However, the brush used for varnishing should be dedicated for that use only, and must be cleaned thoroughly with mineral spirits afterward.

How to Apply: After mixing the varnish well (if parts of both gloss and matte varnish are used), and using a brush dedicated for varnishing only, apply a modest amount to the surface and spread in a diagonal direction, first one way then the other:



Check for areas that you have missed, or for puddling of too much varnish in one spot by holding the surface up to the light and looking for dull areas or areas that are too shiny. If you find any, brush until the surface looks even. Also look for dirt, brush hairs, pet hairs, etc., and remove if necessary. After you are done, place the painting in a draft-free area and clean the brush with mineral spirits.

Remember: Both methods require a well ventilated area that is free of drafts and wind. The area must also be free of dirt, lint, pet hair , etc., or these will end up on the surface of the painting stuck into the varnish.

Types of Varnishes:

Varnishes are made to result in different surface qualities. Gloss varnishes are very shiny and although they bring back the vibrant colors of the paint, at certain angles and in certain conditions the light reflected off them becomes a distraction. Matt varnishes are dull and therefore there is no issue with distracting light reflections, however, the vibrancy of the paint colors is decreased and dulled as well. Varnishes may come in an in-between surface quality, usually called Satin, which tries to capture the best qualities of Matt and Gloss. If they do not, an in-between surface quality can be obtained by mixing liquid gloss and matt varnishes. Some favorite varnish mixture recipes are given below. If they are not to your liking, test different ratios of gloss and matt yourself, until you come up with a recipe that is just right for your tastes.

Temporary Varnish: There are two main brands of temporary varnish that I use--both come in a spray can. They can be applied as soon as the painting is dry to the touch (several days for Alkyd Oils and 2-3 weeks for regular oils).

Retouch Spray Varnish--a special brand of varnish that creates a thin protective layer that allows continued drying of the paint below. The surface is somewhat matt, and will accept further layers of paint.

Kamar Spray Varnish--One thin coat of this varnish can be used as a temporary varnish, and is actually a final varnish when multiple thin coats are used.

Final Varnish: When the painting has thoroughly dried--1-2 months for Alkyd Oils and 3-12 months for regular oils--the final varnish is applied. (Note: the speed of drying depends on the thickness of the paint applied. Indirect paintings using regular oils with three thin coats of paint may only need 3-6 months to dry, whereas thick impasto application will need a full 12 months before the deeper layers have dried. Also, oil colors dry at different speeds. Reds, such as Alizarin Crimson, are known to dry very slowly, so if the painting has much reds in it, you will want to factor in more time for drying. Always err on the side of waiting too long. If you varnish a painting too soon, you might get an effect called "blooming" which is a discoloration beneath the varnish which can only be removed by taking all the varnish off). The following are some products that can be used as final varnishes:

Kamar Spray Varnish: Three thin coats applied 5 minutes apart. Dries to the touch in approximately 15-30 minutes.

Winsor & Newton Dammar Varnish (Gloss) mixed with an equal amount of Winsor & Newton Artist's Original Matt Varnish (1: 1 mixture). The Matt varnish is cloudy and must be heated before mixing with the gloss to get all the wax (which is the component that creates the matt appearance) back in solution. DO NOT put the varnishes near a heat source. Instead, heat water to near boiling, remove from the heat source, and then place the varnish bottle in the heated water. When the matt varnish solution is clear like water, it is ready to mix. (Note: you might dedicate a specific pot for warming the varnishes--you do not want to cook food in pots or pans that might have residual varnish on them from the outside of the varnish bottles.)

The 1:1 mixture of gloss and matt varnish also must be warmed in a similar fashion (until clear) before applying to the surface of the painting. It takes approximately 24 hours to be dry to the touch.

Winsor & Newton Conserv-Art Varnish: This comes in both a Gloss version which is very glossy, and a matt version. I have found that a mixture of 1 part gloss to 2 parts matt (1: 2 mixture of gloss to matt) gives a nice satin look to the surface. The matt must be shaken well before mixing, (also the gloss/matt mixture must be shaken before applying to the painting). This mixture has just a touch more shine than the Dammar/Matt mixture. It takes approximately 24-48 hours to be dry to the touch.

Liquitex Soluvar: This is the newest Varnish and I do not have much experience with this brand, other than preparing demos for class. It comes in both Gloss and Matte versions and is highly recommended by Diane Rath. The Matte does not need to be warmed, but rather it is recommended that you stir and *not* shake the bottle. In the tests that I did, the Gloss and the Matte behave very much like the W&N Conserv-Art products. When I mixed a 1:1 Gloss/Matte mixture, the sheen was very close to the 1:1 mixture of Conserv-Art as well. It takes approximately 24-48 hours to be dry to the touch.

(Note: Both the W&N Conserv-Art and the Liquitex Soluvar products are made with acrylic monomers and can be used on both oil and acrylic paintings. They have components that are called UV light stabilizers and many think that these components protect the painting from light. In actuality, the UV light stabilizers only protect the varnish from yellowing over time. They *might* give slight protection to the paint from light, but that is not their main function).

Added Notes:

--When mixing, wear gloves and do the mixing over newspaper. Drips will occur and if they get on your hands you will need to remove the varnish from your hands with mineral spirits, which is toxic. Wearing gloves will prevent your need to do this. Cleanup will be easier if done over newspaper for the same reason.

--Mix small amounts: I often mix up just the amount I will use that day. Things such as small bottle caps can be used for the measuring device. For example, mix one capful of gloss with one capful of matt. Do the mixing in a larger metal lid, or small bottle, and when done, throw them all away. This makes less cleanup necessary.

--On the other hand, if you varnish frequently, make up a big batch and store in a well sealed metal cap glass container. Caution: some of the solvents will evaporate into the air inside the jar and when you open the cap they will be released. Because of this, over time, the concentration of the mixture will increase. This may affect the appearance of the final varnish surface.

--Often, odorless mineral spirits is not strong enough to clean the varnish off the brush used. If this is so, you may need to have a small can of low-odor mineral spirits or turpentine on hand to clean the brush. Do not use or combine mineral spirits that has cleaned a varnish brush with mineral spirits that is used in the painting process. Keep them separate.

Hope this has clarified any varnishing questions you may have had.
HAPPY VARNISHING!!!!