

Solvent-Free Painting*

****This is an article from Gamblin on Solvent-Free Painting that I have edited down to focus on the Montgomery College approved studio materials we are using in our class.***

Gamblin Goals: Gamblin has worked with painters who want to eliminate all solvent from their painting processes. It is in this spirit that they introduced a range of Solvent-Free Painting Mediums, to give painters more possibilities in solvent-free techniques, with less compromise. This Studio Note discusses our range of Solvent-Free materials (Solvent-Free Gel, Solvent-Free Fluid and Safflower Oil) and helps painters navigate their use in the painting process.

How Oil Paint is made: For 600 years, oil colors have been made by grinding pigment into vegetable oil (most commonly linseed oil).

Safflower Oil

- Paler safflower oil is used in some colors, most notably white.
- Not only is this vegetable oil completely non-toxic, but it is also used in moisturizers, cooking oils, food and vitamins.
- Good for
 - Brush cleaning (during or after a painting session)
 - Creating slower-drying mediums.

Range of Solvent-Free Materials

Solvent-Free Gel and Solvent-Free Fluid

- Both painting mediums are made from safflower oil and alkyd resin with no solvent.
 - Why safflower? We chose safflower for these mediums because of its paler color.
 - Why add alkyd resin? It is essentially a highly polymerized oil, accounting for the faster drying rate of these materials, compared to safflower oil used alone.
 - Drying time: These mediums are considered to have a “moderately fast” drying rate – meaning that thin layers will dry to the touch in approximately 36 – 48 hours.
 - Because they rely solely on oxidation (the air) to dry, they have a longer working time.

The Similarities between Solvent-Free Fluid and Solvent-Free Gel

- Both Solvent-Free Fluid and Gel increase the flow of oil colors, increase transparency, gloss and color saturation.

The Difference between Solvent-Free Fluid and Solvent-Free Gel

- The biggest difference between the Solvent-Free Fluid and the Gel is their consistency.
 - The Fluid medium more significantly increases the flow of oil colors off of the brush.
 - In terms of its working properties, it is similar to either straight safflower, though faster-drying. Brush-marks will be slightly leveled, or “rounded” when using the Fluid.
 - Solvent-Free Gel is the densest medium, closely resembling the paint from the tube. Though it will increase the flow off the brush to some degree, its gel consistency will retain sharp, defined brush-marks.
 - For painters who prefer to use just a little medium to give their colors a more buttery feel, Solvent-Free Gel is perfect.

Using Solvent-Free Mediums

Primary Function

- To modify the consistency (working properties) of the oil colors from the tube.
- Similar to drying oils used straight, Solvent-Free Gel and Solvent-Free Fluid are 100% fat. Like any oil-rich medium, they should be used in moderation – *we recommend up to 25% by volume in mixture with oil colors and applying these mixtures thinly.*
- Due to these limitations, Solvent-Free materials are best suited for direct, or “alla prima,” painting styles – which is what most of us are doing, most of the time.
- Solvent-Free Gel, in particular, has become popular amongst plein air painters because of its ability to retain painterly brush-marks and increase the saturation of colors. In addition, it has the practical benefit of being packed in checked luggage for painters traveling with their painting materials.

Limitations of Solvent-Free Painting

- For painting techniques that call for thin washes of color, especially in the preliminary stages of a painting, Solvent-Free mediums used alone are not appropriate.
- Again, these oil-rich mediums should be used in moderation (*no more than 25%*) with colors from the tube.

- In maintaining Fat Over Lean, regard these mediums as “fat.” For underpainting techniques, consider using
 - Oil colors straight from the tube
 - Oil colors thinned with a small amount of Gamsol. A little goes a long way; oil colors relax immediately when a little Gamsol is added.

Brush Cleaning

Because the use of Gamsol and other solvents is so closely linked to brush cleaning, it is important for us to discuss the ins and outs of brush cleaning without the use of solvents.

Gamblin Safflower Oil

- Ideal for cleaning brushes during solvent-free painting sessions.
- Use the “two rag” system outlined below
- For brush clean-up during your painting session
 - **First**, wipe excess paint from brushes with a rag, then dip your brush in a container of Gamblin Safflower Oil.
 - Second, wipe the safflower oil and any remaining pigment from your brush with a second rag and continue painting.
- **After your painting session**, brushes can be further cleaned using Gamsol, Canola oil, or Safflower Oil then followed by soap and water.
- Using either Gamsol, Canola Oil, or Safflower Oil for brush cleaning prevents pigments from being poured down the drain and contaminating the watershed.
- Canola oil is non-drying and *should not be incorporated into painting sessions*, as even small amounts can interfere with drying. But it is good for your final cleaning process.

Additional information on Brush Cleaning, see Gamblin’s Brush Cleaning Tip Sheet pdf (this was sent via email on 2/26/2022.)