



## THE MAGIC OF COLORED POWDERS

As visual artists and polymer clay creatives, we love color. Polymer clay already has color, yes, but we can also add colorants to our clay projects. We can mix colorants into the clay, incorporate them into carriers to make paint, or apply them to the surface to enhance our project. Whether it's pigments, mica, or exciting new synthetic and color-shifting powders, we now have many options for adding color to our clay creations. Ginger Davis Allman is sharing her knowledge about several powders commonly used with polymer clay.

## ABOUT GINGER DAVIS ALLMAN

Ginger Davis Allman is a highly respected educator within the polymer clay community. Through her blog, *The Blue Bottle Tree*, she has inspired countless artists by sharing in-depth tutorials, insightful articles, and practical tips for working with polymer clay. Ginger resides in Springfield, Missouri, with her husband, Gary, an abundance of cats, and three enchanting blue bottle trees.



[www.TheBlueBottleTree.com](http://www.TheBlueBottleTree.com)



## PRODUCTS IN THE ADVENT CALENDAR

### LUCY ŠTRUNCOVÁ'S COLOR PIGMENT - NEON RED

Many of you have fallen in love with Lucy Štruncová's Color Pigments, known for their incredible concentration. Just a tiny amount is enough to make your polymer clay creations truly stand out. Plus, you can effortlessly blend them with white pigment to craft soft, pastel shades.

For all of you enjoying the Advent Calendar, we're thrilled to introduce an exclusive new shade—neon red! This vibrant color is sure to inspire your creativity. Enjoy crafting with it!



## PIGMENTS VS DYES

First, I want to distinguish between dyes and pigments. While both allow you to color things, dyes and pigments work very differently. Pigments are particles of intensely colored non-soluble material that is applied to the surface of things. Usually, a binder or carrier of some sort is involved that allows the pigment particles to stick to the item, such as paint.

One of the reasons polymer clay is so versatile is because it's both a binder that we can mix pigment into, and it also binds pigment to its surface because it's naturally sticky before curing.

Pigments are "plain" color. Dyes are chemicals that chemically bond to a material, staining it. Dyes are dissolved in either water or oil, generally, and work to stain specific types of materials. The dyes that work well on cotton, for example, won't dye plastic. Unless dyes are strongly chemically bonded to their substrate, they are not lightfast. This is why most alcohol ink colors eventually fade in light.

Remember, dyes are soluble in a liquid and will stain the substrate. Pigments are particles that need something sticky (such as a medium or binder) to adhere to a substrate. If you put pigment in water, it acts much the same way as mud, making the water cloudy, and it will eventually settle out. If you put dye in water, it will "bloom" and swirl through the water, eventually tinting the water, much like Kool-aid.



## PIGMENTS

While we often think of the word pigment to mean color, it's actually a very specific thing. Pigments are ground-up "stuff" that is used to create color in art materials, makeup, and paint. The first pigments in history came from the ground, and are, literally, dirt. Pigments such as yellow ochre, raw umber, raw sienna, and ultramarine blue are ground dirt or stone. Over time, humans have developed an array of both natural and synthetic (ie. lab-derived) pigments and we have a phenomenal array of colors that you'll recognize such as Viridian Green, Phthalo Blue, Quinacridone Violet, and Cadmium Yellow.

But how do pigments work? Simply, pigments are what gives things color. When a pigment is mixed into a paint base, you get colored paint. Oil paints are, as you can guess, merely pigment plus oil. Acrylic paints are pigment plus acrylic medium. Polymer clay is just the clay base plus pigment. Soft pastels are just pigment, pressed into a stick or pan form with enough binder to make it hold together. If a binder or medium is waterproof, the pigment will hold fast when washed. But if the binder is water soluble, (or can be dissolved with a solvent), the pigment can easily be removed.

Below, you can see a photo of several art materials including Pan Pastel, soft pastel stick, a blob of acrylic paint, a piece of Premo polymer clay, and a pile of pigment. Note how they are all the same hue. This is because they're all colored with ultramarine blue pigment.

# Advent Calendar

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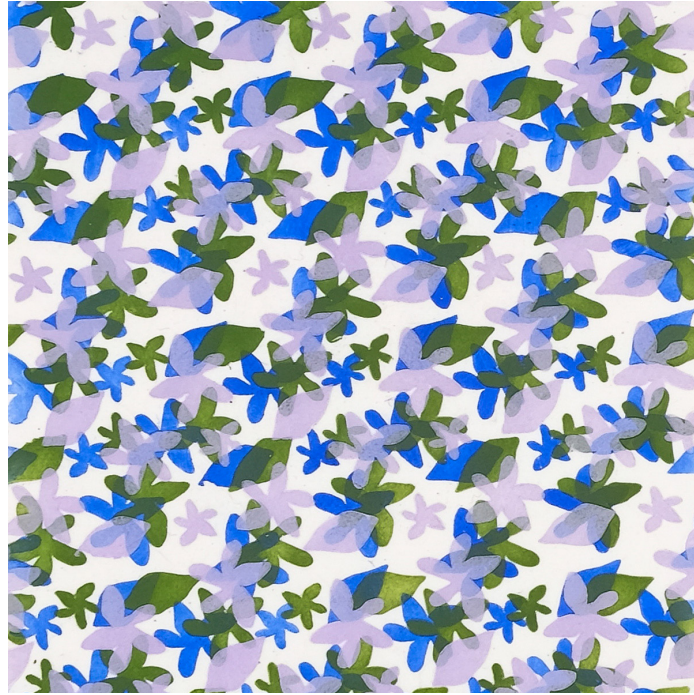


## PIGMENTS ARE VERSATILE

For polymer clay artists, pigments are the most versatile colorant we can use. Pigments, which are in powder form, can be applied to the surface of polymer clay and will stick naturally to the tacky surface of unbaked clay. You can brush pigment lightly, just as you'd brush blush onto your (or a figurine's!) cheeks. You can layer pigments, too, artfully brushing or sponging them onto the unbaked clay. Try applying the pigment through stencils or silkscreens, too.

Polymer clay has the capacity to hold a lot of pigment on the surface as the plasticizer seeps into the pigment powder, sometimes "wetting" it and causing it to darken. Here is a sheet of white clay, decorated with pigments applied through a stencil.

# Advent Calendar



This also means that pigment will bond permanently to the surface of the clay once baked and does not need to be sealed. Though, you might want to seal it if it's subjected to wear. Below is a sample of ultramarine blue pigment applied to black Premo (left) and white Premo (right). Note how it's flat and velvety, with no shine or shimmer, and that the clay's plasticizer is wetting the blue pigment, allowing the color of the clay to show through.



Pigments can be mixed into clay to change the color of the clay. If you add pigment to translucent polymer clay, the result will be slightly translucent colored clay. Remember that white clay contains white pigment, though, which means you'll always get a light color when adding pigment to white clay. The rules of color mixing apply with pigments, of course, so adding blue pigment to yellow clay will result in green clay!

You can also mix pigments with other media that is then applied to the surface of baked or unbaked clay. Try mixing pigment with varnish, liquid clay, resin, or various mediums and pastes such as Kato PolyPaste or acrylic medium. Remember to follow the curing or drying instructions for those various mediums, though.

## LAKE PIGMENTS

Lake pigments are dyes that are used in their insoluble form as a pigment. If being used as a pigment, ground lake pigments are suspended in their medium and applied to paper or canvas, where they stay insoluble, providing physical color.

Lake pigments can be tricky with polymer clay. While they're insoluble when used as paint, the chemistry of polymer clay is a bit different. The plasticizer in polymer clay can dissolve lake pigments and cause them to act as a dye, diffusing through the clay mass, especially with time and/or heat. If you've ever noticed paint or pigments bleeding into the clay after baking, it's likely that a lake pigment was used in the paint. Just choose another color or brand.



## WHERE TO GET PIGMENTS

Because there's not a large market for pure pigment powders, they can be rather difficult to source. While you can usually find natural pigments (such as ochre, sienna, and ultramarine), the synthetic pigments and brighter colors aren't as available on the consumer market. As the DIY paint-making market develops, more and more pigments are becoming available. Lucy has an excellent range of pigments, and I highly recommend them!



Since soft pastels (erroneously called chalks) are just pigments pressed into stick or cake form, you can also use pastels as pigments. Just scrape the side of the pastel stick with a blade to make a pile of powder that you can use the same as pigment from a jar. Pan Pastels are a brand of soft pastel that is pressed into cake form (like blush) that can be applied with a brush or sponge. Even though pastels (and pigments in general) come in single colors, they can be mixed just as you'd mix any colors.



## SPECIALTY PIGMENTS

Modern science has created pigments that our artistic ancestors couldn't even imagine. Not only do we have more intense pigments that imitate rare or toxic pigments of old, but we have pigments that do unusual things like change color with exposure to heat or light. One category of lab-created pigment is fluorescent pigments.

Fluorescent pigments absorb light in the ultraviolet light spectrum and reflect it back in the visible spectrum. This means that fluorescent pigments actually look brighter and more vivid when exposed to certain kinds of light. You've undoubtedly seen neon or Day-Glo posters that shine bright fluorescent blue, green, yellow, orange, red, or violet. These pigments can also be sourced in powder form and used with polymer clay just the same as any regular pigment. The neon color of Cernit and Fimo are pigments with these pigments, in fact.

In addition to making UV Reactive projects, these fluorescent pigments work well to make regular colors brighter, giving them more pop. This is particularly useful when the regular colors we use are just a bit more dull than you'd like for your project to be. Lucy also carries a range of pigments, and you also the red neon in the calendar!



## MICA POWDERS

Often erroneously referred to as a pigment, mica powders are made from a mineral called mica. Mica forms naturally in sheets of fairly clear mineral that was historically used to make the windows in wood stoves. It's tremendously heat resistant. Mica sheets are not only clear, they're also shiny. So, when they're ground into powder, mica powder is made of tiny, tiny flakes of shiny mineral. Each one reflects like a mirror, making the surface reflective and pearlescent.

Finely ground mica creates an even chrome-like sheen while more coarsely ground mica appears frosted or even sparkly. Mica can be translucent or opaque, depending on the coating that's been applied.



Plain mica has no color. But when metal oxides, such as titanium dioxide, iron oxide, silicon dioxide, or tin oxide are applied to the mica, it can take on a color. By changing the metal oxide used, and the thickness of the layer, mica powder can be manufactured to appear to be pearl, white, gold, silver, copper, or bronze color. By adding other metal oxides, other colors can be achieved like blue, green, or red.

Because mica is sparkly or shimmery, it will create a sparkly or shimmery effect. Mica is what's used for nearly everything that looks pearly or metallic. This includes eye shadow, gold paint, pearlescent soap, metallic markers and gel pens, nail polish, and car paint. Mica is also used to create metallic and pearl polymer clay.

## USING THE MICA WITH POLYMER CLAY

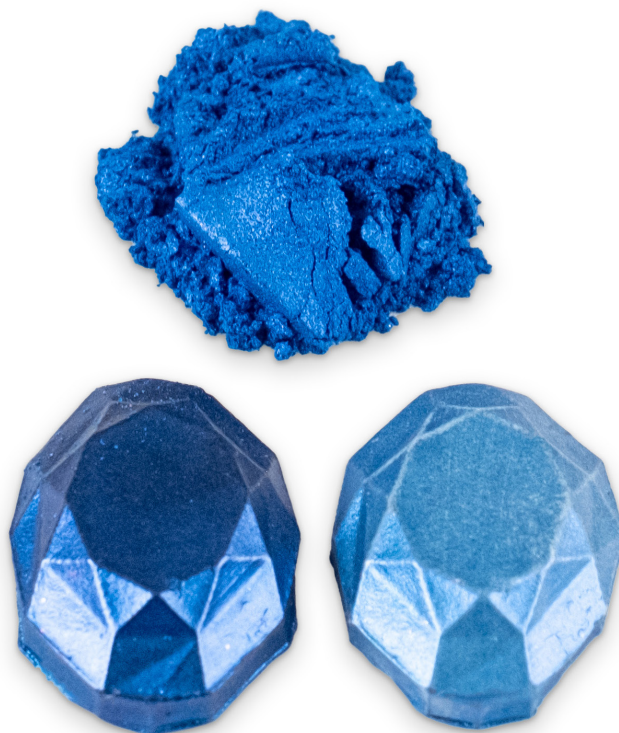
Just as with pigments, mica can be applied to the surface of polymer clay to create a metallic effect. It naturally sticks to unbaked clay. You can't layer mica, however, because once a mica flake sticks to the clay, it blocks other mica flakes from sticking to the same spot. When using this mica on raw clay, any excess mica will easily brush off, leaving people to assume that mica needs to be sealed once baked. While it will wear off with abrasion, it does not need to be sealed. If you need to protect the mica, any clay safe varnish will do fine.

You can mix mica into polymer clay just as you do with pigment. The sparkle of the mica will be obscured by the clay's pigments, though, so unless you're using translucent clay, the effect will be subtle.

As with pigment, you can mix mica powders into mediums, varnishes, and liquid clays to make interesting metallic or pearlescent coatings.

Be aware, however, that mica powders and pigments, while both being colored powders, do not create the same effect. Pigments create color. Mica creates sparkle or shimmer. In other words, to create blue paint use pigment. To make blue metallic paint, use blue mica powder.

Note how the blue Pearl Ex mica powder below makes the polymer clay gems shimmery and metallic, but does not provide intense color the way that the ultramarine blue pigment did in the earlier photo.



## SYNTHETIC MICA

Mica is a natural mineral mined from the earth and that means the clarity and intensity of sparkle depends on how many impurities are in the mica. There are also humanitarian concerns with the conditions in mica mines. In recent years, technology has moved on to allow the creation of synthetic mica. Made in a lab using a man-made material called “fluorophlogopite”, synthetic mica is much more shiny than natural mica and allows for a brilliant and intense reflection. Additionally, synthetic mica can be created with an incredible array of coatings allowing truly breathtaking optical effects such as color-shifting and duo colors.

Since 2018, Cernit’s range of metallic and pearl colors of polymer clay is made with synthetic mica. That’s why the colors are so bright and intense after baking. Their line of mica powders, called Cernit Sparkling, are also made of synthetic mica.

## WHERE BUY MICA

While mica has been used in the makeup and manufacturing worlds for many decades, it’s only been available in the consumer craft market fairly recently. The first brands were Pearl Ex by Jacquard Products and Perfect Pearls by Ranger. Both contain natural mica and a few of their colors also include added pigment. Perfect Pearls contains gum Arabic (a binder) which allows it to become watercolor once water is added. The two newest colors of Pearl Ex, Knox Gold and Hot Copper, are synthetic mica.

Mica is cheap to produce, both in natural and synthetic form, so “cheap stuff from China” marketplaces often sell mica in sets of small packets as “pigment” for soap, resin, or nail art. You can find endless arrays of sets of mica powders for quite low prices. Remember, though, that mica is not pigment and will provide colored sparkle more than color intensity.

Mica sold for one purpose can be used for other purposes; you don’t need to stick with the intended use they’re being sold for.

You will find mica sold as chrome nail powder, soap colorant, makeup or eye shadow, “fairy dust”, and endless other presentations. It’s all mica powder.

## CHAMELEON, UNICORN, AND COLOR-SHIFTING POWDERS

Here’s where things get interesting. Glass artists use dichroic glass that has a coating that allows it to reflect a different color depending on the angle of the light or whether the light is being transmitted or reflected. AB beads have an iridescent, multi-colored coating. Those coatings can also be applied to synthetic mica, giving us mica powder that can give a color-shifting effect to the surfaces of things. This means we can coat polymer clay with, essentially, dichroic powders!

There are several categories of specialty or color-shifting powders, each giving a slightly different effect.

## INTERFERENCE COLORS

These white powders appear colorless when applied to light surfaces but will appear colored when used over a dark surface. Pearl Ex has a range of interference colors in natural mica and Cernit Sparkling uses synthetic mica for theirs.

Below, you can see two sets of gems. The top row of each set is Interference Mica Powder on black Premo and the bottom row of each set is on white Premo. The top set is Pearl Ex, a natural mica, and the bottom set is Cernit Sparkling, which is a synthetic mica.



## DUO COLORS

These powders appear as one color when you're looking at the powder, but then they reflect a completely different color. Pearl Ex has several duo colors. This kind of effect mica is often seen in commercially available nail polish as well.

Below is Pearl Ex Duo Red-Blue, which is a pink mica powder that reflects blue.



## UNICORN COLORS

Sometimes called fairy or rainbow powders, these color-shifting powders are quite like interference colors in that they are colorless, themselves, and usually are quite sheer or transparent. But the color they reflect will be different depending on the viewing angle. You may see gold, green, blue, pink, or violet as the angle changes.



## CHAMELEON COLORS

When the metal oxide coating is applied to black synthetic mica, the powder will become the reflected color. This gives you, for example, powder that is blue but will reflect purple, green, and gold. If you've ever seen a car going down the street that looks green but then changes to blue as it passes, you've seen the magic of this type of mica powder. Chameleon powders are opaque and create dense coverage. Note in the photo below, the powders are so opaque that you can't see the difference between the black and the white Premo samples they're applied to.



## USING COLOR SHIFTING PROCESS

Color shifting powders rely on the angle of light to show their color shifts, so they will only work when the flakes of mica can be laid down onto a surface to create a uniform, mirror-like effect.

These powders really show their best when the surface is curved or gently textured so that your eye can see the powder with multiple at once. If you mix interference or unicorn powders with polymer clay or medium, they will just look white since it's only the reflection that will show color. Duo colors will just show the same color as the mica itself (not the reflected color). And chameleon colors will just appear black! I was very sad when I found that out! But if you give the mica particles an opportunity to align and become flat, you will see color, which is why brushing them onto the surface of the clay and burnishing them will look fantastic!

## WHERE TO BUY COLOR SHIFTING POWDERS

The market for color shifting powders has been led by Chinese exporters and the small companies that buy them in bulk and then repackage them. Sources are often in nail art or "Cheap Stuff from China" marketplaces like Amazon, Temu, or AliExpress.

There are some online shops now that specialize in these unique powders and pigments such as Solar Color Dust or Woody's Goodies. Your mileage may vary, of course. I've found this a very fun area to explore and I use the powders both in polymer clay and in my own nail art.

## OTHER POWDERS

Pigments and mica powders are not the only powders we can apply to create color with polymer clay. Here are a few others that we can use.

## DYE POWDER

Truly wonderful when used in paper arts, there are powdered dyes on the market that are used to create special effects when used with water. These dyes CAN be used on polymer clay, but be aware they won't stain the clay and won't be waterproof. They will need to be coated with a sealer to make them become a permanent part of your project. Brushos and Lindy's Stamp Gang Magicals are two brands you might encounter.

## **GLITTER**

While mica is often called glitter, it's very different. Glitter is usually stamped out of sheets of plastic or mylar film. The same iridescent coatings that I mentioned above can be applied to glitter, too. But it's plastic, not mineral.

## **METAL POWDER**

Mainly used in the faux finishes and specialty coatings world, it is possible to source actual powdered metal to be used much in the same way as mica powder. Be aware, however, that real metal will tarnish with time or exposure to certain chemicals. Brass and copper will, of course, turn dark or green. This is useful, however, if you want your paint to corrode and use the color of the patina as an intentional effect. This is the strategy behind Christi Friesen's Swellegant line.

## **EMBOSSING POWDER**

This plastic powder melts in the heat to create a shiny, melted, enamel-like effect. Originally intended for paper crafts, this powder comes in a huge array of colors and effects. You can use embossing powder on the surface of the clay or mixed into translucent, which gives a wonderful faux stone effect after baking.

## **HAVE FUN!**

Endless variations of all these powders exist, with more coming out all the time. There are mixtures, too. Don't be afraid to try things and explore what the materials can do with polymer clay. Some things will work, some won't. But in the process, you'll have a lot of fun. You might even discover something magical that will change everything!

Ginger Davis Allman