Ann Johnston

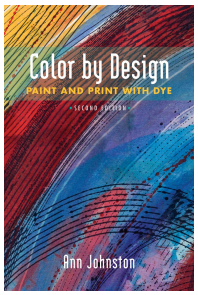
About the Materials
Paint & Print with Dye

SAFETY WITH PROCION MX DYES

Procion MX dyes are versatile and simple to use. Like all the chemicals we use in our daily lives, they should be handled with good work standards. Always minimize your exposure to all chemicals.

- Use a mask to avoid breathing the powder
- Keep separate from food
- Clean up as you work

Video Course



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FABRIC

The type of fabric you use is critical to your results. Procion MX dyes are made for plant fibers and they also work on silk. For cotton, the brightest colors with the most detail are achieved with a bleached **mercerized** cloth with no sizing or wrinkle-free treatments. Surface dye techniques usually result in the same colors on silk and cotton using soda as the fixative; however, silk that is immersion dyed in with soda may result in different colors than cotton, depending on which colors you use.

DYE AUXILIARIES

SODA: Soda ash is the fixative for Procion MX dyes; sodium carbonate is its chemical name. When soda is present with the dye, it very quickly causes the dye to start bonding to the fabric. The soda in the dye colors will bond with the water, so there will be no dye left to bond with the fabric. A dye/water/soda solution older than an hour will act as a direct dye and only stain the fabric, and will at least partially wash out.

UREA: At least a slight amount of moisture is required to allow the dyes to fix with the fiber. Urea is in the print paste and in the urea water because it draws in moisture, necessary because we are using so little water with surface techniques. Urea is in the dye concentrate to allow you to dissolve more dye powder—the greater concentration of dye allows you to thicken the dye and still get strong color.

SODIUM ALGINATE SH: This is a high viscosity, low solids thickener which can be used for all printing and painting with Procion MX dyes. It is the main ingredient in print paste which can be made very thick or diluted with urea water.

There are other thickeners to make print paste which will vary in viscosity and size of solids; they will have different mixing directions to meet your printing needs.

METAPHOS: This is a water softening agent in the print paste mix, used to make it smoother.

LUDIGOL: Mild oxidizing agent in the print paste mix, OPTIONAL with Procion MX dyes.

SYNTHRAPOL SP: Concentrated surfactant used to scour fabric before dyeing and for final hot wash of Reactive Dyes.

THE DYE COLORS—Procion MX only

- The powdered dyes do have a shelf life. You should label the date when you get them. If they are older than 2-3 years, I would test them.
- I recommend buying only single-chemical dyes and mixing your own colors. There are a few more, but this list is a good basic set. **Be sure you have the three in BOLD.** If you have others or mixes, go ahead and use them.
- The color numbers in the left column are the manufacturer's identifier; each company gives their own color number and name, so its confusing. Look for the MX numbers.

The colors I often use	The names I use
Procion Yellow MX-8G	yellow
Procion Yellow MX-GR	tangerine
Procion Orange MX-2R	orange
Procion Red MX-5B	red
Procion Red MX-8B	fuchsia
Procion Turquoise MX-G	turquoise
Procion Blue MX-G	blue
Procion Blue MX-4GD	navy
Procion Violet MX-BR	boysenberry

TO CURE THE DYE— Other dyes do not work the same as these.

TIME: Procion MX dyes need time to spread into the fibers and to react with them. Painting or printing Procion MX dyes directly on the fabric (using very little water) requires **a minimum of four hours at room temperature** to get maximum color. Immersion dyeing uses a high ratio of water to dye and requires less time to react. With either method, dye will keep its strength a very limited time after soda has been added, because it will bond to the water.

TEMPERATURE: Procion MX dyes require room temperatures, **at least 70° F (21°C) or higher** while and after working to be properly fixed in the fabric. If the powder is dissolved above 95° their reactivity is lessened. They can be stored, mixed with water (without soda) for several days and even longer if kept below room temperature. Complete washout of the excess dye that has not fixed in the fabric requires very hot water 140°F (60°C) and detergent and agitation.

MOISTURE: Procion MX dyes require at least a small amount of moisture for the dyes to be able to bond with the fibers. This means they might be immersed in liquid or they might feel almost dry to the touch. If they dry out before about four hours, they will stop fixing.