

PROCION MX

Versatile dyes for full saturated colours

MAIWA
HANDPRINTS

Emphasize colour and texture. Try dyeing fabrics with interesting weaves and unusual natural-fiber blends. Try over-dyeing previously dyed or printed fabrics. Explore multi-colour dyeing or batch dyeing. Experimentation often leads to discovery and the creation of luxurious and unique fabrics.

Procion MX powder Dyes are vibrant and extremely concentrated. They are unique in that the dye molecule forms a chemical bond with the fibre molecule to produce exceptionally brilliant shades having excellent light and washfastness.

These dyes are highly concentrated in dry powder form. Two ounces (60 grams) will dye between 10 and 30 meters of fabric, depending on the colour, the desired intensity, and the weight of fabric. Procion MX dyes are marketed under a variety of other brand names – often elaborately packaged and cut with extending agents. By packaging only pure dye in bulk form, procion MX becomes one of the most economical dyes available. They are an excellent and versatile fibre-reactive dye which may be used for such diverse techniques as garment dyeing, tie dyeing, handpainting, and batik. Procion MX powder dyes are simple to use since they require few added chemicals. They are a uniquely comprehensive class of dyes. These are the dyes to choose if you plan to stock only one type of dye and want to be able to use a variety of techniques on diverse natural fibres.



Fibre Types

Procion MX dyes may be used on the following natural fibres: cotton, silk, linen, rayon, ramie, wool, leather, jute, basket, reeds, and paper.

Techniques

Garment dyeing, batch dyeing (tie dyeing, rainbow dyeing), batik, direct application, warp painting, paper dyeing, and discharge dyeing.

Colours Available

Yellow MX-8G, Gold Yellow MX-3R, Orange Mx-2R, Scarlet MX-BRA, Crimson MX-5B, Fuchsia MX-8B, Rust MX-GRN, Turquoise MX-G, Royal Blue MX-G con, Navy MX-2G, *Green, *Olive, *Brown, *Purple, *Black, * Denotes MX Special Mix.

What You Will Need

- Stainless steel, enamel, plastic or glass containers for measuring, mixing and dyeing. Do not use galvanized metal or aluminum for mixing or storage.
- Mask and gloves.
- Soda Ash (sodium carbonate) – an alkali fixative for reactive dyes.
- Salt - a leveling agent which gives even dyeing.
- Urea – a hygroscopic agent which draws moisture from the atmosphere. Required for batik dyeing or handpainting.
- Procion MX Powder dye
- Directions

Safety in Use

Although no chemical is entirely free from hazard, these products will present a low to negligible health risk provided that good standards of studio hygiene are observed.

All persons handling chemicals and dyes should take precautions to avoid accidental ingestion, inhalation, skin/eye contact and should be aware of any limitations of use of specific products. While these dyes and the chemicals are not highly toxic, they are industrial chemicals and should be handled with care.

If chemicals or dyes get into the eyes, wash thoroughly with water and obtain medical treatment immediately. Prolonged or repeated contact with skin should be avoided. Wear rubber gloves and use implements to stir solutions and dyebaths. Inhalation of dusts should be avoided. If the dyes are handled where particles may become airborne, a suitable dust respirator should be worn. Under no conditions should chemicals be taken internally. Food, drink, and smoking materials should be prohibited where chemicals and dyes are used. The utensils used for dyeing should not be used for other domestic purposes (especially food-related uses).

A final suggestion: Children and animals are naturally curious. Do not leave jars or bottles where little hands or paws may get into them. Safety data sheets on individual products available upon request.

Preparing the Fabric

Before dyeing, all fabric must be scoured to remove dust, grease, starches, sizing, etc. which interfere with the dyeing process. You may scour with Synthrapol Soap or Orvus Paste.

The information given here and otherwise supplied to users is based on our general experience and, where applicable, on the results of tests on samples of typical manufacture. However, because of the many factors which are outside our knowledge and control which can affect the use of these products, neither we nor the manufacturer can accept liability for any injury, loss or damage resulting from reliance upon this information.

Dyebath Method

This method is good for garment dyeing, fabric dyeing, immersion batik, immersion tie dyeing and yarn dyeing.

To dye 1 pound (.5 kg) of fabric (approx. 3 adult t-shirts OR 1 pair medium weight pants OR 4 meters medium weight fabric)

value	procion MX	salt	water	soda ash
pale	3/4 tsp (3.75 g)	3 tbsp (45 g)	2 1/2 gal (9.5 l)	3 tbsp (45 g)
medium	2 1/4 tsp (11.25 g)	9 tbsp (135 g)	2 1/2 gal (9.5 l)	3 tbsp (45 g)
dark	6 tsp (30 g)	1 1/2 cup (360 g)	2 1/2 gal (9.5 l)	3 tbsp (45 g)
deep	12 tsp (60 g)	2 1/2 cup (600 g)	2 1/2 gal (9.5 l)	3 tbsp (45 g)

Note: You will seldom need to mix the dyes to the deep formula, however, to obtain a rich black, this formula is necessary. We recommend mixing 1 part Navy to 3 parts Black

Directions

1. Dissolve dye into a small amount of water. Insure there are no lumps.
2. Into another large container, pour required amount of water heated to 105° F (40° C). The container should be large enough to allow the fabric to float freely. Add dissolved dye solution.
3. Add pre-wetted fabric to the dyebath and stir well.
4. Dissolve salt completely in warm water. Add salt to dyebath and stir continuously for 10-15 min. Stir occasionally for another 15 min.
5. Dissolve soda ash in warm water. It is important that the soda ash is completely dissolved. Add to the dyebath. Stir continuously for 5 min. Stir occasionally for another 30 min. (For max. permanence and depth of shade allow fabric to remain in dyebath for 30 min. or more).
6. Fabric may be rinsed in a washing machine or utility sink. Rinse the dyed cloth well in cold water, then raise the temperature to hot. Add Synthrapol. Use 10 ml of Synthrapol for each pound (500 g) of fabric. Rinse again.

Important: The rinsing step is one of the most vital steps in the dye process. It is necessary to remove unfixed dye partials from the fabric. It should not be rushed. Water should run absolutely clear at the last rinse.

Notes

1. Procion MX dyebaths cannot be stored and reused. Once the process has been completed, the dyebath cannot be reactivated.
2. When dyeing turquoise, some dyers prefer to substitute Glauber's Salt (Sodium Sulfate) for plain salt to achieve more brilliant shades. This applies to Turquoise MXG only.
3. The depth of shade is determined by the amount of dye used not the amount of time in the dyebath.
4. Removing the fabric from the dyebath before the process is complete in an attempt to get lighter shaded will only result in decreased wash and lightfastness.
5. To produce darker colours or alter shades add more dissolved dye to the dyebath prior to adding the soda ash. Once the soda ash has been added, the dye becomes permanent and the colour will not change significantly.
6. Procion MX Powder Dyes are for natural fibers ONLY. They will not dye the polyester in poly/cotton blends.
7. The dyebath method may be done in a washing machine for larger projects. We recommend this procedure be done by those already familiar with the dyeing process.

Wool Dyeing with Procion MX

Procion MX is not the ideal dye for wool but can be used for some projects. An ideal wool dye is Ciba Washfast Acid. When dyeing wool with Procion MX, substitute acetic acid or vinegar for soda ash. 1. Prepare a dyepot with required amount of water and salt. 2 Add the dye. Add fiber. Bring gradually to a simmer, stirring frequently for 30-45 min. more. 4. Remove dyepot from heat and allow to cool to room temperature. Remove fibre from pot. Follow normal final wash-off procedure.

Batch Dye Method

For handpainting, Direct Application, Batik and Tie & Dye.

Good for multi-colour tie dyeing, rainbow dyeing, direct application, handpainting, warp painting and batik, batch dyeing is the process of directly applying multiple colours when all over even dyeing is not required. It allows the textile artist great scope for design, but requires the ingredients in a different order from immersion dyeing.

Preparing the Fabric

1. Scour fabric by washing in Synthrapol or Orvus paste. Dry.
2. If tying or binding the fabric, do so now. Ties must be secure and tight for best results. Prepare a Soda Soak Solution: ½ cup soda ash, 1 Gal. Hot Water, Large plastic container. Dissolve the soda ash in hot water. This solution will keep indefinitely at room temperature and can be reused to soak more fabric later.
3. Soak the fabric for 30 min.

4. Wring excess solution back into container for reuse. Fabric should be just damp.

Preparing the Dye solution

value	procion MX	salt	urea	warm water
pale	½ tsp (2.5 g)	2 tsp (10 g)	½ tsp (2.5 g)	½ cup (125 ml)
medium	1 tsp (5 g)	1 tbsp (15 g)	1 tsp (5 g)	½ cup (125 ml)
dark	2 tsp (10 g)	2 tbsp (30 g)	2 tsp (10 g)	½ cup (125 ml)

Dissolve all ingredients completely in the warm water. Dye solutions may be kept for up to one week in a covered container. The freshest dye solution will produce the brightest colours.

Note: Procion MX colours are intermixable. We recommend mixing the primary colours into solution and creating secondary colours from this solution.

Directions

1. Apply the dye solutions to the fabric. A variety of tools may be used for this (brushes, syringes, bottles etc.)
2. Cover the fabric with plastic. This may be done by placing smaller pieces in plastic bags or rolling larger pieces between two sheets of plastic. Seal and leave for 24 to 48 hours (the fabric should remain moist during this time). This is called "batch setting".
3. After the "batching" period, leave fabric tied and rinse thoroughly in lukewarm water.
4. Untie. Fabric may be rinsed in a washing machine or utility sink. Rinse the dyed cloth well in cold water, then raise the temperature to hot. Add Synthrapol. Use 10 ml of Synthrapol for each pound (500 g) of fabric. Rinse again. Note: Synthrapol is an excellent soap to prevent bleeding of colours.

Notes

1. If dye discolours white areas of fabric, the fabric was not rinsed well enough in the final rinse. Repeat step 4 until water runs clear.
2. If colour bleeds into the tied areas, the binding was not tight enough, or an ineffective binding material was used. Plastic Poly Tape. Ikat Tape, or Nylon Cording work well. Tightening or reinforcing the existing ties will help.
3. If too much colour rinses out during final rinse, the fabric likely needs a longer batching time.

Thickening the Dye

For Handpainting, Silkscreening, or Blockprinting

Procion MX dyed may be thickened using sodium alginate, which is a gum derived from seaweed. Consistency can be adjusted for different processes by controlling the amount of sodium alginate that is added to the dye. Sodium alginate can be added directly to the batch dye stock solution or it may be added to water and then added to the dye. To 1 quart (1 litre) of solution add: 2-3 tsp. (10-15 g) for blockprinting or silkscreening. Slowly sprinkle the sodium alginate powder over the solution and stir constantly until smooth. Mixture can be used right away, however, full viscosity will not be reached for a few hours. Store well labeled in refrigerator.

Steaming

Procion MX dyes may be steamed to render them colourfast as an alternative to batch setting. Presoak the fabric in the Soda Soak Solution. Follow the Batch recipe for mixing the dyes. When painting on the dyes is complete and fabric is dry, it is rolled between sheets of newsprint and placed in a vegetable steamer or home built steamer for 15 to 20 min. of hot rapid steam. See Procion H data sheet for complete steaming instructions.

Procion MX dyes may be discharged or removed using chlorine bleach, sodium hydrosulfite, or thiourea dioxide. Each colour discharges differently and not all colours reduce completely to leave the cloth white. We recommend testing. See the Discharge Data Sheet.

Colour Mixing Guidelines

The following guidelines can be used to mix colour blends from the standard Procion MX colours. These mixtures are guidelines only. Please keep in mind that colour names are subject to personal perception. In order to reproduce exact colours, careful notes need to be kept on precise amounts of all ingredients.

Salmon	75% brilliant yellow	25% scarlet	Teal	50% turquoise	50% navy
* Coral	35% gold yellow	65% scarlet	* Lime Green	65% brilliant yellow	35% turquoise
Henna	50% fuchsia	50% brown	True Green	35% brilliant yellow	65% royal blue
Pumpkin	35% orange	65% rust	Jade Green	20% brilliant yellow	80% turquoise
			Forest Green	50% brilliant yellow	50% navy
Wine	50% scarlet	50% royal blue	Khaki	50% orange	50% turquoise
Mulberry	50% fuchsia	50% brown			
Burgundy	50% scarlet	50% navy	Steel Gray	50% navy	50% black
Deep Magenta	80% fuchsia	20% black	Blue Black	35% navy	50% black
Red Violet	65% fuchsia	35% navy	Deep Black	25% navy	75% black
Violet	50% fuchsia	50% navy	Mix to deep colour value and leave in the soda ash for 1 hour stirring frequently.		
* Lavender	35% fuchsia	65% royal	For colours that are starred, use the same ratio of dye to lesser depth of shade: ie. PALE instead of MEDIUM.		
Blue Violet	35% fuchsia	65% navy			
* Bright Purple	20% fuchsia	80% turquoise			
* Periwinkle	80% navy	20% black			

Procion MX International Colour Codes

Yellow	(Yellow MX-8G)	Rust	(Orange MX-GRN)	* Green	* Purple
Gold Yellow	(Yellow MX-3R)	Turquoise	(Turquoise MX-G)	* Olive	* Black
Orange	(Orange MX-2R)	Royal Blue	(Blue MX-G con)	* Brown	
Scarlet	(Scarlet MX-BRA)	Navy	(Navy MX-2G)		
Crimson	(Red MX-5B)				
Fuchsia	(Red MX-8B)				* Denotes MX Special Mix

Customers are responsible for dye and paint choices and recommendations. Maiwa staff do their best to assist customers in estimating quantities, procedures and products. Maiwa Handprints Ltd. or its staff will not be held responsible for such advice. Dye recipes should be tested prior to all projects. Maiwa Handprints Ltd. will not be held responsible for cost of products and/or labour to produce finished projects. Instructions are available free with each product purchased, please ensure you read and understand them before beginning.