

## Direct Application using PRO MX Reactive Dyes

Please read directions carefully before starting.

*For HAND PAINTING, SCREEN PRINTING, BLOCK PRINTING and STENCILING on Cotton, Linen, Rayon & Silk using thickened Dye Paint for pattern control. Outlined below are four methods for fixing dye on the fabric. Please read all of them before choosing the method that suits your application needs. It is important to sample before working on large projects. For additional information visit our web site at [www.prochemicalanddye.com](http://www.prochemicalanddye.com).*

- ✘ Wear rubber gloves, apron or old clothes.
- ✘ Utensils used for dyeing should never be used for food preparation.

### Supplies

PRO MX Reactive Dye	PRO Dye Activator or Soda Ash
Synthrapol	OR Ammonium Sulfate (silk only)
PRO Print Paste Mix SH	OR Baking Soda (not for silk)
Urea	Metaphos (optional: use if you have hard water)
	Ludigol F (previously known as PRO Chem Flakes) (optional)

### Procedure

**1. Scour the fabric** by machine washing in HOT 140°F (60°C) water, or by hand in a pot on the stove with ½ tsp (2 gm) PRO Dye Activator or Soda ash and ½ tsp (2.5 ml) Synthrapol per pound of fabric (454 gm, or 3 to 4 yards cotton muslin, or 8 yards 8mm China Silk, or 3 Medium T-shirts, or 1 sweatshirt). Rinse thoroughly. This step does not add the dye fixative to the fabric; it prepares your fabric for dyeing by removing any dirt, oil or sizing.

**2. Make the Print Paste.** (This step is optional. If you do not want to thicken your dye, move on to Step 3.) Measure 5½ level Tbl (55 gm) of PRO Print Paste Mix SH into a dry container. Measure 1 cup (250 ml) of warm 110°F (44°C) water into a container. Sprinkle PRO Print Paste Mix SH into the water while stirring rapidly. Continue stirring until a smooth paste is obtained. Let stand 1 hour or overnight for smoothest results. Unused paste should be kept in closed container. Store prepared print paste without dye up to six months, normally without refrigeration.

**3. Make the Urea Water** by mixing together the ingredients below. Allow Urea Water to cool to room temperature before using. Store unused Urea Water at room temperature in a closed container. Discard it if you detect an ammonia smell.

- 9 level Tbl (100 gm) Urea
- 1 level tsp (2 gm) Ludigol (optional)
- 1 level tsp (7 gm) Metaphos (optional)
- 1 quart (1 liter) warm 110°F (44°C) water

**4. Make the Dye Paint.** The Dye Paint thickness described below is a guideline. Experiment until you get the thickness that suits your application needs.

#### Hand Painting (thin paint)

Thoroughly dissolve desired amount of dye powder, from the chart below, with just enough Urea Water to make a lump free paste (approximately ¼ cup, or 60 ml.) Thicken with prepared Print Paste, usually 1 to 2 tsp, then add Urea Water to make 1 cup (250 ml). Stir until thoroughly mixed.

#### Screen printing, Block printing, and Stenciling (thick paint)

Thoroughly dissolve desired amount of dye powder, from the chart below, with just enough Urea Water to make a lump free paste (approximately ¼ cup, or 60 ml.) Add prepared Print Paste to make 1 cup (250 ml). Stir until thoroughly mixed.

Pale	Medium	Dark	Black
½ tsp (1 gm)	2 tsp (5 gm)	4 tsp (10 gm)	8 tsp (20 gm)

**5. Fix the Dye.** Please read the four methods below then choose the one that best suits your application needs. The methods below are for cotton, rayon, linen and silk unless otherwise noted.

**Method #1**

*Apply Activator to fabric.*

Make SOAK SOLUTION.  
Mix 9 Tbl (80 gm) PRO Dye Activator or Soda Ash and 1 gallon (4 liters) of 110°F (43°C) water.

Soak fabric in SOAK SOLUTION for 10-15 minutes with occasional stirring. Wearing rubber gloves, wring out fabric well. **DO NOT RINSE!** Let fabric dry or apply dye while cloth is damp. SOAK SOLUTION can be kept indefinitely in closed container and can be reused to soak more fabric.

Set dye: Allow fabric to cure by covering with plastic for a minimum of 4 hours. If dyeing dark colors or Turquoise let cure for 24 hours. Room temperature must be above 70°F (22°C). Rinse and wash as directed below.

Discard dye paint after five days.

**Method #2**

*Add Alkali fixative to Dye Paint.*

Make MIXED ALKALI.  
4 Tbl (43 gm) Baking Soda and 1 Tbl (9 gm) PRO Dye Activator or Soda Ash. Discard dry MIXED ALKALI powder after 6 months.

Mix Baking Soda and PRO Dye Activator or Soda Ash powders until well blended. Make dye paint as outlined above. When ready to paint add 1 level tsp (4 gm) of Mixed Alkali powder to each cup of dye paint. Mix until well blended. Apply dye.

Set dye: Allow fabric to cure by covering with plastic for 24 hours. Room temperature must be above 70°F (22°C). Rinse and wash as directed below.

Discard dye paint with MIXED ALKALI after four hours.

**Method #3**

*Add fixative to Dye Paint & heat cure.*

*This method is NOT recommended for silk*

Mix BAKING SODA, 1 level tsp (4 gm) per cup (250 ml) of dye paint.

Make dye paint as outlined above. When ready to paint add 1 level tsp (4 gm) of Baking Soda to each cup of dye paint. Mix until well blended. Apply dye. Set dye: Air dry fabric then steam set for 15 minutes, or heat set in a clothes dryer for 45 minutes at HOTTEST setting. Rinse and wash as directed below.

Discard dye paint with BAKING SODA after two days.

**Method #4**

*Add fixative to Dye Paint.*

*SILK only!  
NOT for Cotton!*

Mix AMMONIUM SULFATE, 1 level tsp (6 gm) per cup (250 ml) of dye paint. See note below.

Make dye paint as outlined above. When ready to paint add 1 level tsp (6 gm) AMMONIUM SULFATE Mix until well blended. Apply dye.

Set dye: Allow fabric to cure by covering with plastic for 24 hours, or steam for 15 minutes.

Room temperature during cure time must be above 70°F (22°C). Rinse and wash as directed below.

Discard dye paint with AMMONIUM SULFATE after four days.

**6. Rinse the fabric.** After setting the dye, rinse fabric thoroughly in a bucket of room temperature 75° to 95°F (24° to 35° C) water. Change the rinse water 3 to 4 times. Then wash with very HOT 140°F (60°C) water adding ½ tsp (2 ml) Synthrapol per pound (454 gm) of fabric. Rinse well and dry. Black and very dark colors may need a second HOT Synthrapol wash.

By the way, we found that Citric Acid Crystals tend to precipitate (get lumpy) in a short amount of time when added to thickened Dye Paint. Ammonium Sulfate behaves much better in the thickened Dye Paint and sets the dye on silk just as well.