

Dyeing with Pre-Reduced Indigo

Please read the directions carefully before starting.

For cotton, linen, rayon and silk

These directions make a 3 gallon indigo vat.

This specially formulated indigo is already 60% reduced, therefore, it allows you to use soda ash instead of lye in the dye vat. Extremely easy to use, pre-reduced indigo makes setting up an indigo vat almost effortless. There is no need to paste up the indigo granules because they dissolve easily in water.

✱ While Indigo and the chemicals used are comparatively safe and non-toxic, it is best to treat them all with caution. Wear rubber gloves to minimize contact with hands. Always work in a well ventilated area. Good house-keeping is essential to good results. Utensils used for dyeing should never be used for food preparation.

Supplies needed:

Pre-reduced indigo
Thiox
Soda Ash or PRO Dye Activator
Synthrapol

Additional Supplies:

5 gallon plastic bucket
3 foot wooden dowel
Rubber gloves
Bar of Ivory soap

Directions for making the vat:

1. Measure 3 gallons (12 liters) of cool tap water, about 60 to 70 degrees Fahrenheit. A plastic bucket with a tight fitting lid works the best for your vat.
2. Add 2 tablespoons (24 grams) of Thiox and 2 tablespoons (15 grams) of Pre-reduced indigo to the water and stir gently. This indigo dissolves very easily and emits an aroma of ammonia. This is why you will want to wear a respirator during the process.
3. Dissolve 4 tablespoons (75 grams) of soda ash in two cups of hot water. Add this dissolved soda ash to the vat. With a dowel or stirring stick, stir in a circle, going in one direction. Slow down and reverse the direction of the stirring, dragging your stir stick along the outer edge of the vat before removing your stir stick. This will bring the small bubbles that have formed, which is called the "flower", to the center. Cover your vat and let the mixture settle for a few hours. The liquid should be a clear yellowish-green color. A white plastic spoon dipped in the vat will give you a good idea if it is ready to use.

Using your indigo vat:

1. Before dyeing, machine wash the fabric on HOT cycle with a minimum temperature of 140F (60°C) water OR by hand in a pot on the stove with ½ tsp (2 gm) Soda Ash and ½ tsp (2.5 ml) Synthrapol per pound (454 gm) of fabric. Rinse thoroughly.

2. Thoroughly wet your bound resist fabrics before dipping in the vat. A warm water soak for at least 15 to 30 minutes is recommended. Wearing gloves, squeeze out excess water evenly.

3. Skim the "flower" and crust off the top of the vat and set aside on a foam plate. It is important to maintain this flower, because it has concentrated indigo in it.

4. Enter your wetted-out fabric slowly, trying to avoid any drops of water or additional air from entering the vat.

5. Working below the surface of the vat, slowly manipulate the cloth. This will help the dye penetrate. Keep fabric submerged for the duration of each dip, 2 to 3 minutes. DO NOT SWISH the fabric around in the vat. Too many air bubbles will add oxygen and weaken the vat.

6. Gently squeeze out excess dye BELOW the surface and remove fabric from the dye vat. DO NOT allow fabric to drip into the vat after dyeing. NOTE: Cover the vat when not in use!!!

7. Let the fabric oxidize (turn blue) for approximately 15 minutes. Repeat dipping and oxidizing until the desired depth of blue is obtained. Keep in mind that after washing the final color will be one to two shades lighter. Dry completely before untying.

8. When you are finished dyeing, put back the "flower" and stir the vat in the same circular manner as described above. Put a lid on the vat and it will be ready for another dye session when all the sediment has settled back to the bottom. The indigo vat can last for several weeks or months if properly tended.

Washing the fabric:

Wash the fabric in hot 135F to 140F (57C to 60C) water for 10 minutes in a generous bath of Ivory bar soap or Ivory Flakes. With a knife, it's easy to flake off a 1/8 inch thick peel of soap. Stir the wash bath occasionally and rinse the fabric until the water runs clear. Hang cotton and rayon to dry.

If you're dyeing silk, then soak it for 10 minutes in a bucket of acid soak. Make the acid soak by mixing 2 Tbl (30 ml) of White Distilled Vinegar in 1 gallon (4 liters) of room temperature water. Then rinse the silk thoroughly in plain water.

Maintaining an Indigo Vat:

An indigo vat can have a very long life if used and tended to regularly. As mentioned above, the best type of container for a vat is a cylinder shape with a tight fitting lid. This will give you room to dye the fabric without it touching the bottom and minimize the surface area that is in contact with air. Occasionally, you may need to add more of the reducing chemicals and the pre-reduced indigo to keep the vat going.

Troubleshooting the dye vat:

- * If the vat has been left for a few days, it may need to be "Sharpened" with a small amount ($\frac{1}{2}$ tsp (2 gm)) of Thiox, dissolved in water, and VERY rarely with Soda Ash.
- * If the vat changes from yellow-green to blue or if blue specks appear, more Thiox is needed. Add a small amount ($\frac{1}{2}$ tsp (2 gm)) Thiox, dissolved in water. Stir gently. Wait 15 minutes and check vat again before dyeing.
- * If white specks appear or the vat appears "milky" add small amount (1 tsp for full size vat) of Soda Ash, dissolved in $\frac{1}{2}$ cup water. Stir gently. Wait 15 minutes and check vat again before dyeing.
- * Occasionally, more than one addition is required to revive a vat. Use small amounts, and wait 15 to 20 minutes between additions, testing each time. Excess alkali or reducing agent can unbalance the vat, making it impossible to build up deep shades. Be patient, and the vat will have a long life.
- * Cover with a tight fitting lid when not in use.

If your vat does not have much of a blue color left to it, it has probably reached its limit and it's time to make a new vat. You can flush the expired vat down the drain, followed with lots of water to dilute the contents.