

Indigo

Recipe for a 7 Gallon Indigo vat

Supplies needed

Indigo	Thiourea dioxide (Thiox)
Lye	Synthrapol or other textile detergent
Soda ash or sodium carbonate	Large (3-4L) Glass Jar
One pint mason jar with lid	Wooden sticks for stirring
Rubber gloves	Scissors

Preparation of stock solution (Do in advance of class-at least 60 minutes)

CAUTION! You may want to wear a mask when possible to avoid inhaling lye, thiox or the dye itself!

See your packet for MSDS information on indigo, thiox and lye.

Prior to dyeing, a stock solution must be made. It may be used right away or stored. In either case, be sure not to shake the jar.

1. In a pint jelly jar, nearly filled with hot tap water, 110 to 140 Fahrenheit, dissolve **lye (1.5 tsp)**. If you don't have a thermometer, approximate the temperature. If the water is too hot for you to hold your hand under it, it's too hot to use-so back off on the heat.
2. Add **indigo (2-4 tsp)** and stir for 2 minutes.
3. Add **thiox (1 tsp)** and stir for about 1 minute.

If reduction of the indigo starts properly, the surface of the liquid should develop a coppery sheen. Place a lid on the jar and set aside in a warm water pan for about 60 minutes. The solution will change from an opaque blue to a translucent brown yellow. Check the stock solution to see if it ready by dribbling with a spoon or straw some solution on the side of a clear or white cup. Note the color change from clear yellow to opaque blue as the indigo is reintroduced to the oxygen in the air. The stock solution may be now used or kept for an extended period. If not used, the indigo will eventually reoxidize. If this happens, heat in a water bath to 120 Fahrenheit, add more thiox and stir well-but not vigorously.

Preparation of the vat.

1. Put **7 gallons** 110-140 Fahrenheit in a 3-4L glass jar. To reduce the amount of surface exposed, use a tall narrow jar as opposed to a short, wide one.
2. Add **lye (1 tsp)** into the water and stir until dissolved. This makes the vat slightly alkaline so that the reduced indigo from the stock does not reoxidize when added.
3. Add **detergent (1.5 tsp)** to help indigo penetrate and break up oxidized indigo on the surface.
4. Add **thiox (1.5 tsp)** and stir gently until dissolved. Cover the vat and allow it to reduce for about 15 minutes.
5. Put on your glove and carefully lower the jar of stock solution into the vat and pour out the contents using the entire jar. Do NOT introduce oxygen as you pour. Stir gently and allow 30- 60 minutes for the vat to turn yellowish-green.

Dyeing

1. Add wetted fabric to the vat carefully, avoiding splashing and air bubble accumulation.
2. With rubber gloves on, work the fabric through the vat gently allowing about 3 minutes for this first dip. Be sure you get 100% penetration of the vat liquid onto the fabric.
3. Squeeze the fiber out underneath the surface as much as possible and gently lift while pressing against the side of the vat. Remove without dripping into the vat. Open the fiber up and expose it to the air. The color change will go from yellow-green to blue. Allow the fabric to completely oxidize before redipping. If green is still on the cloth, complete oxidation hasn't happened.
4. Successive redippings darken the shade. Allow at least 15 minutes of oxidation prior to redipping each time. To demonstrate how darker shades are achieved, use your scissors to cut a strip off of the fabric and redip the remaining fabric, continuing to do this each time you dip in the vat.
5. After you've finished, rinse in water. Expect to lose some indigo this way.
6. If you're keeping the fabric, final washing will help neutralize the alkaline. Rinse very thoroughly and wash cotton in a detergent bath. Then rinse well in clear water to which you've added 1 tablespoon of vinegar, ring out and dry. Enjoy your indigo dyed piece!