



# Bio indigo recipe



INDIGO belongs to the 'vat' family of dyes and whether you use natural Indigo or synthetic, they are both insoluble. To dissolve Indigo, you first need to remove the oxygen from the dye bath and then dissolve the dye. After this has been done it will be able to bond with the fabric. Indigo will only dye natural fibres and Natural Indigo tends to be weaker than Synthetic Indigo but otherwise, they both behave the same way in the dye bath. This recipe is for the HYDROSULPHITE vat. There are several different vat recipes but this is the most straightforward, quickest and easy method. We recommend sensible dyeing practices - you always work in a well ventilated space, wear gloves and avoid breathing fumes.

## EQUIPMENT:

Rubber Gloves  
Wooden Spoon  
Stainless steel pot  
Thermometer  
Measuring Jug  
Protective Clothing  
Heat Source

## MATERIALS

Soda Ash  
Bio Indigo Powder  
Sodium Hydrosulphite  
A sense of adventure  
Any natural Fabric or fibre  
(wash before dyeing)

The dye is dissolved with Soda Ash & then Sodium Hydrosulphite is used to remove the oxygen from the dye bath. This is known as 'vatting out'. When Indigo is vatted out in solution it changes from blue to yellow/green. The surface of the dye bath should be a bluish, bronzy colour with some bubbles on it which is known as 'the flower'. This is caused by the Indigo returning to its insoluble state where it comes into contact with oxygen. A healthy Indigo dye bath should be greenish/ yellow. Once the dye is dissolved, the fabric is submerged in the vat. When the dyeing is complete, the fabric is removed from the dye bath, exposed to the air (OXIDISED) and the dye returns to its original rich blue colour. An Indigo vat is in a constant state of fermentation and you will need to keep an eye on the health of your vat for successful dyeings.

This recipe is for 500gm fabric can be adjusted for larger or smaller amounts by multiplying the amounts or dividing the ingredients proportionately.

20-25gms Natural Indigo (or 15gms Synthetic Indigo)  
160gms Soda Ash  
80 gms HYDROS ST (Kraftcolour) **25% Sodium Hydrosulphite**

## INSTRUCTIONS:

1. To start, carefully dissolve Soda Ash in 500-600mls of boiling water  
Dissolve the Indigo powder in hot water and slowly add the Soda Ash solution and make sure they are thoroughly mixed. (This solution is strongly alkaline: **Avoid getting solution on your skin.**)

2. Prepare the dyebath with approx. 6Ltrs of hot water. Stir Dye/Soda Ash solution gently into dyebath.

3. Sprinkle 80gms Sodium Hydrosulphite over the surface of the vat, stir gently, cover and let it stand until the dye is completely vatted out. By covering the dyebath, you avoid too much oxidisation. When the dyebath is ready to use, it should be a clear greenish yellow colour and have bronzy bubbles on the surface. If the dyebath is till blue and cloudy, the dye is not dissolved properly and you will need to add a little more Hydros.

#### DYEING THE FABRIC

Before dyeing the fabric, make sure the Indigo is completely 'reduced' by dipping a sample of the fabric or paper into the vat. It should come out of the dyebath greenish yellow and then turn blue when exposed to the air. Try to keep the vat at 50c, lower the fabric into the dyebath and leave it there for 10mins. Remove from the dyebath, squeeze out excess dye and allow it to OXIDISE. To darken the shade redip the dyeing for a further 10 minutes or leave it longer. Check your dyebath to make sure it is still in solution and if you notice it's going greenish/blue, sprinkle a little more Hydros on the surface to keep it vatted out. Avoid the 'flower' bubbles, these will leave blotches on your fabric.

After you have oxidised your fabric and you're happy with the colour, wash well in hot soapy water to remove excess dye and chemicals.

