

# tub dyeing basics

with Fiber Reactive Dyes

Step by step instructions  
on the next page →

Use this method to dye fabric or clothing, made of **natural fibers** one uniform or solid color. Also called Garment Dyeing or Vat Dyeing, this method can also be done in a washing machine. Fiber Reactive Dye is the dye of choice for all **cellulose (plant) fibers, like cotton, Rayon, hemp, linen, Tencel®, Modal®, bamboo**, etc. (For dyeing silk, wool and other protein fibers, see *Dyeing Wool and Silk with Fiber Reactive Dyes* on our website) The chemical bond of these dyes is permanent, so once all the excess dye is washed out an infant can chew on the fabric and it will not come off! Fiber Reactive Dyes work in lukewarm water so these directions can also be used to dye batik (waxed) fabrics in successive colors without fear of melting the wax.

## WHAT YOU'LL NEED:

- Fiber Reactive Dye
- Soda Ash
- Non-Iodized Salt
- Urea (*optional*)
- Calsolene Oil (*optional*)
- Synthrapol
- Milsoft (*optional*)
- A bucket large enough for your item to move around in, or a top loading washing machine
- Pitcher & cup
- Measuring cups
- Spoons

## SALT & SODA ASH REQUIREMENTS

The amount of Non-Iodized Salt and Soda Ash are a function of the amount of water used. For each pound of dry fabric you will need about 3 gallons of warm water. The water must cover the fabric with enough room for thorough, tangle-free stirring; otherwise you get uneven dyeing and streaks. For each 1½ gallons of water use 1½ cups of Non-Iodized Salt and 1/6 cup of Soda Ash. For black dyes, use 2X the amount of Non-Iodized Salt.

## BASIC RECIPE:

1/2 Ib. DRY FABRIC	1 Ib. DRY FABRIC	8 Ib. DRY FABRIC
1/2 Tbsp. dye <small>*(depending on shade desired)</small>	1 Tbsp dye <small>*(depending on shade desired)</small>	1/2 cup dye (4 oz.) <small>*(depending on shade desired)</small>
1 1/2 gallons of water	3 gallons of water	20 gallons of water
1 1/2 cups salt	3 cups salt	20 cups salt
1/6 cup Soda Ash	1/3 cup Soda Ash	2 1/2 cups Soda Ash
1 tsp. Calsolene Oil	2 tsp. Calsolene Oil	2 Tbsp. Calsolene Oil

\* Colors with (\*) on the label, double the dye, with (\*\*) on the label quadruple the dye

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## STEP 1 PREWASH YOUR FABRIC

Use **hot** water and 1/4 cup Synthrapol or Dharma Professional Textile Detergent (PTD) per machine load. This will remove any dirt, grease, or other gunk. Use Enzyme detergents to remove starch. Fabrics treated with permanent press, conditioners, sizing or water proofing, etc are not recommended. This is a very important step. Pre-washing really can make all the difference. We even recommend always pre-washing so called PFD (Prepared For Dyeing) fabrics, as you never know “where they’ve been”. Even fingerprints can cause blotchy dyeing.

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## STEP 2 DISSOLVE YOUR DYE

Paste up the Fiber Reactive Dye with some warm water. Next, add about a cup of warm water to the dye paste to make a well dissolved slurry. Add to the tub and stir to mix evenly.

**Note:** Some colors can be harder to dissolve than others, especially some reds (including mixes with red in them, like purples, blacks, browns, etc.), as well as some of the darker yellows. Use approx. 1 TBS of Urea dissolved in 1 cup warm water to make your dye slurry as above. Urea is an excellent dissolving agent. To prevent “freckles” of undissolved red, you can even use some thin fabric like 5mm Habotai silk in a funnel over your dye bath and filter your well thinned and dissolved dye. Re-paste up any dye caught in the filter so you don’t end up skewing the final color.

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## STEP 3 DISSOLVE THE NON-IODIZED SALT

Dissolve the Non-Iodized Salt completely in the required amount of lukewarm (about 105) tap water. Add Calsolene Oil (Optional—breaks surface tension for more even, less streaky results; highly recommended for large loads).

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## STEP 4 ADD THE FABRIC

Stir gently, but frequently, for 20 minutes. In a washing machine, set it to agitate. Don’t let it drain out!—with most machines you have to keep setting it back to the beginning of the cycle. Use a timer so you don’t lose track—nothing worse than losing your dye down the drain before you’re done! The washing machine is recommended for large loads, when you are too busy to stir frequently enough, or for the most even results.

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## STEP 5 ADD THE SODA ASH

Dissolve Soda Ash with warm water and add slowly, over about 15 minutes, to the dye bath while stirring. Don’t pour it directly onto the fabric (concentrated Soda Ash solution touching the fabric can leave darker splotches!) When using a washing machine, turn it off and use something to move the fabric over to one side while adding the Soda Ash in to the otherside. Mix the Soda Ash solution into the water before stirring the fabric around or turning the machine back on. Stir frequently or set machine to agitate again—30 min. for light colors, 1 hour for deep colors.

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## STEP 6 RINSE & WASH OUT EXCESS DYE

Use cool running water until it runs almost clear, or put it through a couple of rinse cycles in the washing machine. Then wash in **hot** water using Synthrapol or PTD to finish washing out the excess dye. With some of the darker colors, like blacks or reds, a second wash may be necessary. Additionally, using Milsoft (a concentrated, professional fabric softener) according to its directions will restore a luxurious softness to fabrics that have been dyed.

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