



## Preparing Material for Dyeing

Depending on the dyeing method employed, the acidic conditions needed are achieved by one of the following methods:

- Space-dyeing** Soak the fibre, yarn or fabric overnight (at least 48hrs for silk fibres) in plenty of water, with a small amount of washing-up liquid and 50ml of vinegar per 100g of fibre/yarn.
- Immersion dyeing** Follow the method above or simply add a small amount of vinegar to the dye bath.

Get your dyes ready then squeeze out excess water until your yarn/fibre is still thoroughly damp but not dripping.

## Making up Acid Dye Solutions

Acid dyes are used as 1% stock solutions for most dyeing applications. If possible, make up the whole pot of powder at once. This minimises the spread of dust particles (see warnings at the end of this article) and the need for scales which accurately weigh small amounts.

- To make a 1% solution you will need 100ml of water for every 1g of dye powder. Therefore, to make up a 25g pot of dye powder you would need 2.5 litres or 5 litres for a 50g pot.
- You will need a large enough bottle to store the unused stock solution in (a 2ltr milk carton is about the right size for 25g of powder). Glass bottles are preferable. If using plastic bottles it is advisable to keep them in a bowl or tray as the dye has been known to eat through plastic after it has been stored for a while.
- An alternative which saves on storage space is to make the dyes up into a stronger solution (e.g. 2% or 5%) then dilute to 1% as needed.

### To make a solution:

- Carefully empty the powder into a measuring jug and add just enough cold water to mix the powder into a paste.
- Add hot (just off the boil) water and stir until all the powder is dissolved.
- Top up with cold water to the required volume, stir well and pour into a container (see above).
- Label with the dye colour and strength of solution (e.g. 1% or 2%).

## How Much Stock Solution per Dry Weight of Goods?

As a general rule, for all protein fibres you will need:

- Strong, solid shades:** 3-4ml of 1% stock solution per gram of fibre/yarn/fabric.
- Pastel shades:** 0.5ml (or even less) of 1% stock solution per gram of fibre/yarn/fabric.

For example: to immersion-dye a 100g hank of wool yarn to a deep shade of your chosen colour:

- Add 300-400ml of 1% stock solution to a dye-pot containing 50ml of vinegar and enough water to cover the yarn and allow it to move freely in the pot.
- Heat the solution gently until it reaches simmering point and time for 20-30 minutes - occasionally stirring gently.

If you have calculated the correct quantity of dye, most colours should be exhausted at the end of the cooking time and the water will be clear. *N.B. Turquoise and scarlet are the most likely exceptions.*

## Methods for Using Dye Stock Solutions

### Immersion Dyeing

For all immersion-dyeing methods (including dip-dyeing and two-tone ball dyeing) follow the quantities above. Remember to reduce the amounts as necessary if you are only dyeing part of the skein/ball at a time.

### Space Dyeing

Applying the dye directly to the fibres by pouring, painting or sponging on your stock solution (space-dyeing) requires slightly different amounts and strengths. The approximate amounts of dye stock that 100g of each type of damp fibre will soak up are:

**Wool tops/skeins/yarn.** Most breeds will soak up approx. 500-600ml of stock solution per 100g. Make the 600ml from 1% solution for strong colours. For paler colours use a small amount of stock solution and top up to 600ml with water.

**Silk or Soybean fibre/yarn.** Usually about half as absorbent as wool so you will need around 250-300ml of dye. To get the same depth of shade as on wool use 250ml of 2% solution for strong, bright colours. For paler colours, measure out a small amount of dye-stock and top up to 250ml with water. *Note: pale colours can be difficult to achieve on silk as the small amount of dye in the solution tends to take immediately where it hits the fibres and doesn't get a chance to soak through.*

**Camel tops/skeins.** Will absorb more liquid than silk but not as much as wool. For strong colours use 250-300ml of 2% stock solution and top up to 400-500ml with water.

You may have noticed that the above amounts are slightly more than those given for immersion dyeing; this is because to dye strong colours you need to saturate the fibre/yarn with dye. You should expect to get some run-off when you steam set the dyes - this can be used for exhaust-dyeing and produces some lovely subtle colours.

## Storing Acid Dyes

Acid dyes can be kept indefinitely if stored as powder as long as they are in airtight containers and kept dry. Their life is limited once made up into stock solutions - they can be kept in the dark for 6-12 months with no noticeable loss of colour strength. **Note:** *if using solutions that have been stored for a while, shake well before use.*



- All equipment used for acid dyeing purposes should be kept solely for that purpose.
- When making up powdered dyes do so very gently and handle as little as possible. Some brands of dye are made up of very small particles and can cause irritation if inhaled.
- Always use a dust mask and be especially careful if you have any respiratory problems.
- Always label the dye liquids clearly and keep out of the reach of children.

## Mixing Acid Dyes

The following colours can be achieved by mixing from stock solutions:

	<b>Yellow %</b>	<b>Red %</b>	<b>Blue %</b>	<b>Black %</b>	<b>Magenta %</b>	<b>Turquoise %</b>
<b>Orange</b>	80	20				
<b>Coral</b>	25	75				
<b>Tan</b>	75	20	5			
<b>Brown</b>	40	40	20			
<b>Burgundy</b>		80		20		
<b>Plum</b>				20	80	
<b>Mauve</b>		80	20			
<b>Purple</b>		50	50			
<b>Violet</b>		20	80			
<b>Navy</b>			80	20		
<b>Petrol</b>				40		60
<b>Blue-Green</b>	20		80			
<b>Green</b>	60		40			
<b>Lime Green</b>	90		10			
<b>Jade</b>	40		60			