

FORMULARY PRINT SPOTTING REDUCER II

To make 375 ml of working solution

Spotting Reducer II is simply the classical Farmer's Reducer. The solution acts by conversion of the silver metal in the print to silver bromide. The reducer can be used to eliminate an unwanted dark spot in a print due to a flaw in the negative. It can also be used to reduce the contrast or white out a portion of the print or reduce the print as a whole.

Regardless of the whether the reduction is carried out on a spot or the whole print, the print must be re-washed and re-fixed (The After-Treatment) to remove the Spotting Reducer II chemicals or the print will stain. (The chemicals needed for fixing are not included in this kit; any fixer will work.)

Toned prints do not respond well to reduction; therefore, plan to use Spotting Reducer II prior to toning.

CHEMICALS CONTAINED IN THIS KIT

Your kit contains the following chemicals:

Chemical	Amount
Sodium thiosulfate, anhydrous	38 grams
Potassium ferricyanide	30 grams
Potassium bromide	15 grams

CHEMICALS SAFETY

All chemicals are dangerous and must be treated with respect. None of the chemicals in this kit need special attention.

Potassium ferricyanide: In spite of the fact that this compound contains cyanide it is not particularly toxic. The reason is that the cyanide groups are bound to the iron atom and are not free to act as a poison. The cyanide groups can be released as hydrogen cyanide gas if the potassium ferricyanide is placed in a strong acid solution; however, this formula does not call for the use of an acid.

To dispose of excess potassium ferricyanide (solid or in solution), you can usually wash the material down the drain with excess water, before doing so check with your local sewer and water authorities.

The user assumes all risks upon accepting these chemicals. IF FOR ANY REASON YOU DO NOT WISH TO ASSUME ALL RISKS, PLEASE RETURN THE CHEMICALS WITHIN 30 DAYS FOR A FULL REFUND OF THE KIT PRICE.

MIXING THE STOCK SOLUTIONS

You will need two dark brown, glass storage containers. One should have a capacity of at least 250 ml for the storage of Stock Solution A and the other should have a capacity of at least 150 ml. A mixing bowl with a capacity of more than 250 ml will also be needed.

Stock Solution A

Chemical	Amount
Distilled water (52°C/125°F)	200 ml
Sodium thiosulfate, anhydrous	38 grams
Distilled water to make	250 ml

Place the warm water in the mixing bowl and add the sodium thiosulfate. Stir the solution to dissolve the solid. Sodium thiosulfate dissolves slowly; therefore, be patient. After the solid has dissolved, add sufficient water to bring the final volume up to 250 ml; stir the solution to ensure it is homogeneous; then transfer it to its storage container.

Stock Solution B

Chemical	Amount
Distilled water (52°C/125°F)	80 ml
Potassium Ferricyanide	30 grams
Potassium Bromide	15 grams
Distilled water to make	125 ml

If you use the mixing bowl that was used to mix Stock Solution A, be sure it is thoroughly cleaned before using it to mix Stock Solution B. The two stock solutions, when mixed, have a very short life.

Place the warm water in the mixing bowl and add the potassium ferricyanide. Stir the mixture to dissolve the solid. Next, add the potassium bromide and, again, stir the mixture to dissolve the solid. Add sufficient water to bring the final volume up to 125 ml; stir the solution to ensure it is homogeneous; then transfer into its storage container.

USING THE REDUCER

For Small Spots

Working Solution: Mix 2 parts Stock Solution A with 1 part Stock Solution B. Mix only a very small amount and use it immediately because the working solution deteriorates within a few minutes. For example, mix only 6 ml by using 4 ml of Stock Solution A and 2 ml (about 40 drops) of Stock Solution B. Discard the working solution after use.

Reduction: The print should be dry so that the spotting reducer solution does not spread over a larger area when it is applied. Wet the brush with the working solution and remove the excess liquid. Touch the brush to the spot with a minimum of pressure. Remove the brush and watch the spot. The spot should lighten in about 15 seconds. If no change takes place repeat the application. Before the spot is as light as you wish it to be, proceed with the after-treatment.

For Larger Spots

Working Solution: Mix 2 parts Stock Solution A, 1 part Stock Solution B, and 5 parts distilled water. Discard after use.

Chemical	Parts	Volume Desired		
		8 ml	10 ml	20 ml
Stock Solution A	2	2 ml	2.5 ml	5 ml
Stock Solution B	1	1 ml	1.2 ml	2.5 ml
Water (20°C/68°F)	5	5 ml	6.2 ml	12.5 ml

Reduction: Even reduction of an area is most easily attained if the print is damp. Apply the working solution to the area using a Q-Tip or a small cotton wad.

Do not rub the area; the friction may abrade the surface. When the reduction approaches the desired level, proceed to the after-treatment.

The Complete Print

Working Solution: Mix 30 parts of Stock Solution A, 1 part Stock Solution B, and 169 parts of distilled water. Discard after use.

Chemical	Parts	Approximate Volume Desired		
		200 ml	500 ml	1000 ml
Stock Solution A	30	30 ml	75 ml	150 ml
Stock Solution B	1	1 ml	2.5 ml	5 ml
Water (20°C/68°F)	169	169 ml	422 ml	845 ml

Reduction: Pre-wet the print with water then immerse it in the working solution. Agitate it for 10 seconds then remove it and wash it immediately with running water. Examine the print to determine if sufficient reduction has occurred. If not, repeat the reduction for another 10 seconds. When the print has been satisfactorily lightened, proceed with the after-treatment.

THE AFTER-TREATMENT

After reduction, be sure to wash the print, fix it thoroughly, and rewash. The reduced area, regardless of its size, will yellow or fade in time if the Spotting Reducer II chemicals and their reduction products are not removed.