PHOTOGRAPHERS' FORMULARY

FORMULARY POLYSULFIDE TONER

To prepare 1 liter of toning solution

Formulary Polysulfide Toner is a brown toner similar to Kodak T-8. The toning bath contains potassium polysulfide (liver of sulfur) and sodium carbonate as an alkali. Formulary Polysulfide Toner, like Hypo-Alum Sepia Toner, deposits silver sulfide on the image. The difference between the two toners is the depth of the brown color that results. Polysulfide Toner gives a rich, dark-brown tone while tones obtained using the Hypo-Alum toner are much lighter. Both toners give permanent images. Toning with the Polysulfide Toner takes about 15 to 20 minutes at room temperature.

The chemicals in the kit are used to prepare 1 liter of working solution, which has a capacity of about 35 8x10's. A second package of sodium carbonate that can be used to partially rejuvenate the spent solution is included in the kit. The working solution is stable for extended periods of time.

CHEMICALS CONTAINED IN THIS KIT

This kit contains the following chemicals:

Chemical	Amount
Potassium polysulfide (liver of sulfur)	7.5 g
Sodium carbonate, monohydrate	2.5 g
Sodium carbonate, monohydrate	2.5 g

CHEMICAL SAFETY

All chemicals are dangerous and must be treated with respect. Please read the chemical warnings on each package.

Potassium Polvsulfide is a powerful photographic fogging agent because it releases hydrogen sulfide. It is also considered to be a dangerous chemical unless it is used correctly. Potassium polysulfide should be used with considerable care. Do not allow it or its solutions to come into contact with acid or acid solutions such as a stop bath or a fixer. The polysulfide will react with the acid to release hydrogen sulfide (H_2S), a foul smelling and poisonous gas.

Potassium polysulfide and its solutions are caustic. Do not allow them to come into contact with the skin because they can cause a chemical burn. If contact should occur, wash the area first with cold water followed by soap and water.

Consult with local sewer and water authorities regarding proper disposal of darkroom chemicals in your area. Usually, you can dispose of solid potassium polysulfide or a solution of potassium polysulfide sulfide down a drain. First, run cold tap water down the drain for about 5 minutes to make sure no acid remains in the drain trap. Place the solid or pour the liquid into the drain pipe. Finally, run tap water dawn the drain tot at least 10 minutes.

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.

MIXING THE TONER SOLUTION

FOR BEST RESULTS USE DISTILLED WATER. You will need a 1-liter (or larger) mixing bowl and a 1-liter storage container.

Chemical	Amount
Distilled water (20°C/68°F)	750 ml
Potassium polysulfide (liver of sulfur)	7.5 g
Sodium carbonate, monohydrate	2.5 g
Distilled water to make	1000 ml

Place the water in a mixing bowl and add the potassium polysulfide. Stir the solution to dissolve the solid. Next add the solid sodium carbonate and again stir the solution to dissolve the solid. Finally add sufficient water to bring the final volume up to 1000 ml. Be sure to stir the solution after adding the water to ensure it is homogeneous. Transfer the toning solution to its storage container.

CAPACITY OF THE TONING SOLUTION

One liter of solution can be used to tone approximately 35 8x10 (140 4x5) prints. As the bath approaches depletion it will turn cloudy.

REJUVENATION OF THE SPENT TONING BATH

Add 2.5 g of sodium carbonate to a partially spent toning solution and stir to dissolve the solid. The rejuvenated bath will have only about 1/3 to 1/2 the capacity as the fresh bath.

USING THE TONER

The toner works well on all papers except Kodabromide paper. The print should be well developed, washed and wet before toning.

Immerse the print in the toning bath (20°C/68°F) for 15 to 20 minutes. Rock the toning tray during toning to wash the print with fresh solution. The final hue will depend upon the length of time the print is in the bath.

The length of toning time can be reduced to about 3 minutes by increasing the temperature of the bath up to 38°C/100°F.

After toning, wash the print in running water for about 30 minutes. During the washing, wipe off any scum on the surface of the print with a wet cotton swab.

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