

PHOTOGRAPHERS' FORMULARY

FORMULARY GOLD PROTECTIVE TONER (GP-1)

Directions for mixing and using Formulary Gold Protective toner
1-liter kit used for protecting up to 10 8x10 (or 40 4x5) prints.

As applied to this kit, the term "toner" is somewhat a misnomer. Almost all photographic toners are used to alter the color of a black-and-white print to enhance its emotional appeal. This is not the purpose of Gold Protective toning. Rather the purpose is protection of the silver metal in the print for archival reasons. There will be little color change of the print upon gold protective toning. However, with most prints there will be a slight shift towards a blue-black tone, a cooling, or darkening of the image.

CHEMICALS CONTAINED IN THIS KIT

Chemical	1 liter
Potassium thiocyanate	10 g
Gold chloride solution, 1%	10 ml

CHEMICAL SAFETY

All chemicals are dangerous and must be treated with respect. Please read the chemical warnings on each package.). **Consult with local sewer and water authorities regarding proper disposal of darkroom chemicals in your area**

Potassium Thiocyanate is considered to be nontoxic but it can cause skin eruptions on some individuals. If this should happen, discontinue exposure and consult a physician. This chemical is only remotely related to the deadly potassium cyanide and cannot be converted to it.

Gold Chloride is a caustic and can cause skin burns. In dilute solution, gold chloride will stain the skin purple. The stain is due to gold metal bonded to the protein of the skin and cannot be chemically removed. The only procedure for removing these spots is to let them wear off. If you are concerned with finger stains, we strongly urge you to use rubber gloves, such as Playtex gloves, when working with this toner.

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: STOCK SOLUTIONS

When completely mixed, Gold Protective Toner has a rather short life (about one working session). Therefore, these directions are written so that you will not have to commit all of the chemicals to the preparation of the working solution unless you wish to do so.

Stock Solution A

You will need a dark brown bottle of at least 500 ml storage capacity to store this solution.

Chemical	1 liter
Distilled water (20°C/68°F)	500 ml
Gold chloride solution, 1%	10 ml

Place the water in the storage container and add the 10 ml of the 1% gold chloride solution.

Wash the gold chloride bottle with 2 to 3 portions of fresh distilled or demineralized water and transfer the wash to the storage container. Be sure all the gold chloride solution is transferred. Finally, add sufficient distilled or demineralized water to the container to bring its final volume to 500 ml.

Stock Solution B

You will need a brown glass container with a capacity of at least 500 ml.

Kit Size	
Chemical	1 liter
Distilled water (20°C/68°F)	500 ml
Potassium thiocyanate	10 g

Place the water in the storage container and add the 10 grams of solid contained in the thiocyanate package. Stir the solution (or cap and shake the container) to dissolve the solid.

Working Solution

Sufficient chemicals are provided in this kit to protect 10 8x10 or 40 4x5 prints. This value is variable, however, depending upon the silver density in the prints that are toned-the greater the density, the lower the capacity. Since the working solution is not stable after mixing, the directions given below assume that only two 8x10 (or 4 4x5) prints are to be protected.

To prepare a working solution capable of protecting two 8x10 (or 8 4x5) print, mix:

Chemical	Amount
Stock Solution A	100 ml
Stock Solution B	100 ml

To mix other volumes of working solution, add equal volumes of Stock Solutions A and B. Each 100 ml of working solution (from 50 ml of Stock Solution A and 50 ml of Stock Solution B) will have a capacity of about one 8x10 (or 4 4x5) print.

USING THE TONER

The print must be thoroughly fixed and washed. Use archival procedure for washing. Gold Protective Toner will protect the silver metal from environmental chemicals but cannot protect the paper. If the paper contains residual fixer, the print will degrade in time whether it is gold toned or not.

If the print is dry, presoak it before toning. Immerse the wet print in the working solution at room temperature (20°C/68°F) for 10 minutes or until you can detect a barely perceptible shift in tone towards the blue. After toning wash the print in running water for at least 20 minutes.