

PHOTOGRAPHERS' FORMULARY

FORMULARY ABC PYRO FILM DEVELOPER

This is a classic formula that uses pyrogallol as the developing agent and is similar to Kodak D-1 and Ansco 45. Formulary ABC Pyro is designed for large format use and produces negatives with normal to low contrast. The grain is low and acutance high. The negatives have beautiful scale and gradation: however, there is a loss of about 1/2 stop in film speed.

This developer requires a non-acidic fixer to be used, such as our TF-4 Archival Rapid Fix or Formulary Fixer 24. Acid fixers will bleach the desired pyrogallol stain.

The chemicals in the kit are used to make three stock solutions, which are combined and diluted to make the working solution. A 1-liter kit yields 10 liters of working solution. The shelf life of the stock solutions is six months. The working solution is used once and then discarded.

CHEMICALS CONTAINED IN THIS KIT

Chemical	1/2 liter kit	1 liter kit
Sodium Bisulfite	5 g	10 g
Pyrogallol	30 g	60 g
Potassium Bromide	0.5 g	1.1 g
Sodium Sulfite	52.5 g	105 g
Sodium Carbonate	42.5 g	85 g

FOR YOUR CHEMICAL SAFETY

All chemicals are dangerous and must be treated with respect. Please read the warning on each package. There is one chemical in your kit that needs special attention: Pyrogallol.

PYROGALLOL is a phenol and thus has the potential to cause chemical burns. To be on the safe side, use rubber gloves and clean your work area and equipment with excessive amounts of soap and water. If pyrogallol (solid or in solution) should come into contact with your skin, wash the area with water followed by soap and water. Brief skin contact produces a dark stain, which is not a chemical burn. Prolonged skin contact does produce a chemical burn, which closely resembles a heat burn. Pyrogallol is also a poison. When using solid pyrogallol, do not inhale its dust.

The user assumes all risks upon accepting these chemicals. IF FOR ANY REASON YOU DO WISH TO ASSUME ALL RISKS, PLEASE RETURN THE CHEMICALS WITHIN 30 DAYS FOR A FULL REFUND.

Please consult with local sewer and water authorities regarding the proper disposal of darkroom chemicals in your area.

MIXING THE STOCK SOLUTIONS

You will need three storage bottles, one of which should be brown, each with a capacity of 500 ml or 1 liter depending upon the kit's size. To mix the solutions, you will also need a mixing bowl and a graduated cylinder or other measuring device.

We recommend you wear a dust mask, splash goggles, rubber gloves and a rubber apron anytime you are mixing dry chemicals.

STOCK SOLUTION A

Chemical	1/2 liter kit	1 liter kit
Distilled water (48° C/120° F)	375 ml	750 ml
Sodium Bisulfite	5 g	10 g
Pyrogallol	30 g	60 g
Potassium Bromide	0.5 g	1.1 g
Distilled water to make	500 ml	1000 ml

Place the warm water in a mixing container, add the sodium bisulfite and stir to dissolve the solid. Add each chemical in the order given stirring to dissolve each before adding the next. Add water to bring the final volume up to 50 ml or 100 ml depending on the kits size. Stir the final solution to ensure it is mixed thoroughly; transfer it to the brown storage container. Be sure to clean the mixing container thoroughly.

STOCK SOLUTION B

Chemical	1.2 liter kit	1 liter kit
Distilled water (20° C/68° F)	375 ml	750 ml
Sodium Sulfite	52.5 g	105 g
Distilled water to make	500 ml	1000 ml

Place the water in a mixing container, add the sodium sulfite and stir to dissolve. Add water to bring the final volume up to 50 ml or 100 ml depending on the kit size. Stir the final solution to ensure it is mixed thoroughly then transfer it to its storage container.

STOCK SOLUTION C

Chemical	1/2 liter kit	1 liter kit
Distilled Water (20° C/ 68° F)	375 ml	750 ml
Sodium Carbonate	42.5 g	85 g
Distilled Water to make	500 ml	1000 ml

Dissolve the sodium carbonate in the same way the sodium sulfite was dissolved in solution A.

MIXING THE WORKING SOLUTIONS

Standard Dilution

Chemical		Parts	
Stock Solution A	1	50 ml	100 ml
Stock Solution B	1	50 ml	100 ml
Stock Solution C	1	50 ml	100 ml
Distilled water	7	350 ml	700 ml
Final volume desired:		500 ml	1000 ml

Weston's Dilution

Chemical		Parts	
Stock Solution A	3	45 ml	90 ml
Stock Solution B	1	15 ml	30 ml
Stock Solution C	1	15 ml	30 ml
Distilled water	30	425 ml	900 ml
Final volume desired:		525 ml	1050 ml

USING THE DEVELOPER

The following development times are only to be considered as starting values. Your exact development times will vary with your agitation technique and contrast requirements. In addition, pyrogallol produces different results with different film types. Careful testing is necessary.

Standard Dilution: Develop for 6-8 minutes at 20° C/68° F in a tray with constant but gentle agitation.

Weston's Dilution: Develop for 18-20 minutes at 21° C/70° F in a tray with constant but gentle agitation.

Use your normal development procedure; develop, stop, fix, wash, clear, wash. DO NOT USE AN ACID STOP OR ACID FIXER WITH THIS DEVELOPER SO THE PYRO STAIN IS NOT LOST.