

# PHOTOGRAPHERS' FORMULARY

## FORMULARY BEUTLER HIGH ACUTANCE FILM DEVELOPER

Formulary Beutler High Acutance Film Developer is a compensating developer that gives excellent sharpness, medium grain, and low contrast. With 200 ASA or slower films, a high degree of enlargement is possible.

Compensation and lower contrast is achieved because more bromide is released in the highlights than in the shadows. The excess bromide in the highlights slows their development relative to the shadow areas where the development continues and brings out the fine details. The net effect is an increase in shadow detail and a decrease in the overall contrast of the negative.

Mackie line is a fine black line around the highlights. These fine lines result from the bromide spreading around the highlight. At the edge of the highlight, the concentration of bromide on the shadow side of the edge causes abnormal restraint. Consequently, the edge of the highlight becomes very well defined.

This metol-based developer is very economical. The chemicals contained in this kit are used to make 2 stock solutions, which are diluted to make 12 liters of working solution.

### FOR YOUR CHEMICAL SAFETY

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

Some individuals become sensitized (develop allergic symptoms or rashes) when using metol. Please pay special attention to the warning on this package.

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

### MIXING THE STOCK SOLUTIONS

Two stock solutions are prepared and just prior to use, a portion of each is mixed with water to obtain the working solution.

You will need one dark brown bottle with a capacity of one liter to store Stock Solution A, and a glass or plastic one liter storage container for Stock Solution B. We recommend you wear rubber gloves, splash goggles, dust mask and a rubber apron whenever you are mixing dry chemicals.

Stock Solution A

Chemical	Amount
Water (48° C/120° F)	750 ml
Metol	10 g
Sodium sulfite	50 g
Cold water to make	1000 ml

Place the warm water in the storage container. Add a pinch of sodium sulfite. (this amount of sodium sulfite retards the initial oxidation of the metol. If more sulfite is added, the metol will not dissolve.) Add the metol and stir well until all of the metol dissolves. Add each chemical in order making sure each has dissolved completely before adding the next. Finally add cold water to bring the total

volume up to 1000 ml. Be sure to stir the solution after adding the final portion of water to ensure that it is mixed thoroughly.

#### Stock Solution B

Chemical	Amount
water (48° C/120° F)	750 ml
sodium carbonate, monohydrate	58g
cold water to make	1000 ml

Place the warm water in the storage container. Add the sodium carbonate and stir until the solid disappears. Add cold water to bring the final volume up to 1000 ml. Stir the solution to make sure it is mixed thoroughly.

#### LIFE OF THE SOLUTIONS

The shelf life of both stock solutions is 6 months if the storage container is full and tightly capped.

#### MIXING THE WORKING SOLUTION:

You will need a graduated cylinder to mix the working solution. All solutions should be at 20° C/68° F for both mixing and development.

To prepare the working solution, mix one-part Stock Solution A with one part Stock Solution B and ten (10) parts water.

Stock Solution A	40 ml	100 ml
Stock Solution B	40 ml	100 ml
water	400 ml	1000 ml
Final volume of working solution	480 ml	1200 ml

#### USING THE DEVELOPER

The actual development time varies with individual taste and film type and should be determined by testing. In general, slow films require less development while fast films require longer development.

Agitation is variable with this developer for you to tailor development to your specific needs. More time allowed between agitation results in more compensation and increased sharpness.

Too much time between agitation results in uneven development. Run careful tests to find the agitation pattern best suited for your application.

We recommend a development time of 8-15 minutes at 20° C/68° F, using your normal development sequence.



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