

Add sufficient cold water to the storage container to bring the final volume up to 1000 ml. Cap the storage container and wash the outside of the container before removing it from the sink.

LIFE OF THE SOLUTIONS

Stock Solution A has a shelf life of about 6 months in a full and tightly capped bottle. Solution B will have an indefinite life if stored in a filled plastic container. When opened, the sodium hydroxide will absorb atmospheric carbon dioxide and lose its potency. Depending upon the frequency of exposure, the actual shelf life can be considered to be from 1 to 6 months.

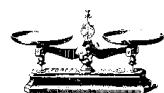
USING THE DEVELOPER:

Mixing the working solution is as follows:

Solution	Amount
Solution A	25 ml
Solution B	15 ml
Distilled water (20° C/68° F)	1000 ml

A typical developing sequence is:

Develop:	10-15 minutes with agitation every other 20 seconds.
Stop:	30 seconds (a water rinse may be desirable between the developer and the stop to prevent reticulation.)
Fix:	2-4 minutes in Formulary TF-4 Archival Rapid Fix. (Cat. no. 03-0141)
Wash:	30 seconds in running water
Clear:	2 minutes in Formulary Hypo Clear Agent (cat. no. 03-0165)
Wash:	5 minutes in running water.



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CATALOG NUMBER 01-0105

F PHOTOGRAPHERS' **FORMULARY**

FORMULARY MODIFIED WINDISCH FILM DEVELOPER

TO MAKE 40 LITERS OF WORKING SOLUTION

This formula recommended by Mr. William Troop who, in his experiments with Windisch Pyrocatechin developer, reversed the proportions of sodium sulfite and catechol (Pyrocatechin). The resulting super compensating developer works well with Kodak Technical Pan film and yields negatives that can record a range of 7 to 10 stops. For use with this developer, Technical Pan film should be exposed somewhere between 32-64 ASA.

Catechol (Pyrocatechin), a tanning developer, stains (actually fogs) the negative and also hardens the emulsion, protecting it from reticulation. The negatives, however, have a brown color and look dark, even at the edges. This is the normal appearance of negatives developed in catechol

Modified Windisch Film Developer was formulated for use on Technical Pan film and may not be satisfactory with other films. If you wish to use this developer on films other than Technical Pan, we recommend you first test it with scrap film.

CHEMICALS CONTAINED IN THIS KIT

Your kit contains the following chemicals:

CHEMICAL	AMOUNT
Sodium sulfite	80.0 g
Catechol (Pyrocatechin)	12.5 g
Sodium hydroxide	100.0 g

FOR YOUR CHEMICAL SAFETY:

All chemicals are dangerous and must be treated with respect. Please read the warning label on each package. There are two chemicals in this kit that need special attention.

MODIFIED WINDISCH
DEVELOPER

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CATECHOL: has a high vapor pressure and it is a phenol. As a solid, vaporizes readily.

Avoid smelling the vapor because it has the potential to burn membranes. When mixing a solution containing catechol, work in a well-ventilated area. When catechol is in solution its high vapor pressure is not a problem. This chemical is also corrosive and can cause skin burns. If you should spill a solution of catechol, wash the area (or skin) with soap and water. Use rubber gloves whenever possible.

SODIUM HYDROXIDE: as a solid or in solution, is a dangerous chemical. It is corrosive and, if spilled on the skin, will cause a chemical burn. The burn occurs without pain. When working with sodium hydroxide wash your hands frequently and without soap. If you detect a soapy feeling while washing, sodium hydroxide is present. In such a case wash thoroughly with soap and water.

Beads or pellets of solid sodium hydroxide are easily spilled during solution preparation. If spillage occurs outside of a sink, all of the spilled solid must be cleaned up. Use a damp disposable towel. If the solid is not cleaned up, it will absorb the moisture from the air and form a puddle of very caustic hydroxide, which will not evaporate. The proper technique for preparing sodium hydroxide solutions is described in the mixing section. We strongly urge you to wear both safety glasses and rubber gloves when working with solid sodium hydroxide and its solutions.

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:

You will need one dark brown and one plastic bottle each with a capacity of one liter. To prepare Stock Solution B (sodium hydroxide solution), you will also need a two-liter plastic beaker or other suitable plastic container, a plastic funnel and a plastic spoon or stirring rod.

Two stock solutions will be prepared. A working solution is made by mixing and diluting a portion of each of the stock solutions just prior to use.

Stock Solution A

Chemical	Amount
Distilled water (38° C/100° F)	750 ml
Sodium Sulfite	80 g
Catechol (Pyrocatechin)	12.5 g
Cold water	To make 1000 ml

Prepare this solution in a well-ventilated area. Initial oxidation of the catechol can be minimized if the water is first degassed by boiling then cooled, or by using distilled water. Place the water in the glass storage container and add the sodium sulfite. Stir or swirl the solution until the solid has dissolved. Add the catechol and again stir or swirl the solution to dissolve the solid. After all of the catechol has gone into solution, add a sufficient amount of cold water to bring the final volume in the container up to 1000 ml.

Stock Solution B

Chemical	Amount
Cold water (16° C/61° F or less)	750 ml
Sodium Hydroxide	100 g
Cold water	To make 1000 ml

Stock solution B must be prepared in a sink and in a well-ventilated area. Place a dry wide mouth 2-liter plastic mixing container in a sink and place the solid sodium hydroxide in the container. Measure 750 ml of cold water and carefully add the water to the plastic container. Stir the mixture with a plastic spoon until the solid has gone into solution. Stir gently and avoid splashing the solution. After the solid has gone into solution, let the solution sit in the sink until it reaches room temperature.

When sodium hydroxide goes into the solution, considerable heat is generated. If your water is not cold enough, the solution may start to steam. If this should occur, add some ice to cool the solution. If the solution starts to steam and you cannot cool it, leave the room and let it cool off by itself. After the solution is cool, then proceed. DO NOT BREATHE THE VAPOR--it contains entrapped sodium hydroxide.

While still in the sink and with the aid of a plastic funnel, transfer the sodium hydroxide solution into its plastic storage container. Use a little cold water to wash the residual sodium hydroxide solution in the mixing container into the storage container.