

PHOTOGRAPHER FORMULARY

PO Box 950 1 Condon MT 59826 1 406-754-2891 1 FAX 406-754-2896
E-MAIL formulary@montana.com

HOLODEVELOPER 602 **Develops 100 4x5 Plates**

HD-602 was given to Photographers Formulary, Inc. by: Hans Bjelkhagen from the Lasergruppen Hologvision AB, Stockholm, Sweden. It is a developer for reflection holograms in particular; made for Agfa Holotest, 8E75HD material.

The developer works well for Denisyuk type of reflection holograms using both He-Ne or Krypton CW lasers and pulsed ruby lasers the exposure depends on the laser used but is around 100 $\mu\text{J}/\text{cm}^2$.

HD-602 works very well giving a high signal-to-noise ratio and high diffraction efficiency. The developer is completely stable as long as Part A and B is not mixed, and remains stable after being mixed for many weeks. One liter of mixed developer can be used for at least 100 4x5 plates.

If reversal bleach is used e.g. the "Pyrochrome" bleach (enclosed in this kit) the color in the hologram can be controlled by the exposure. (The more exposure, the more shrinkage of the emulsion and the shorter the wave-length of the reconstructed light will be).

CHEMICAL SAFETY ALL CHEMICALS ARE DANGEROUS AND MUST BE TREATED WITH RESPECT. PLEASE READ THE CHEMICAL WARNING ON EACH PACKAGE OF CHEMICALS.

Consult with your local sewer and water authorities regarding disposal of darkroom chemicals.

PART A: KEEP AWAY FROM CHILDREN. May be fatal if swallowed. May cause skin burns. Do not breathe the dust or vapors. Avoid contact with skin, eyes, and clothing. May be absorbed through the skin. Wash thoroughly after handling.

PART B: KEEP AWAY FROM CHILDREN. May cause irritation or burn. Avoid contact with eyes, skin or clothing. Avoid breathing dust. Wash thoroughly after handling. In case of contact, flush skin or eyes with water for at least 15 minutes. For eyes, consult a Physician.

PYROCHROME BLEACH

Potassium Dichromate is both toxic and an oxidizer (potential fire hazard). To dispose of excess solid potassium dichromates always wash the solid down the drain with copious amounts of water. Never dispose of the solid in a wastepaper basket.

Spillage of a dichromate solution on the skin will cause a chemical burn, which will appear as ulceration. In addition, all chromium compounds are potential carcinogens.

We strongly advise you to use disposable rubber gloves when handling this compound or it's solutions.

Clean trays and containers thoroughly with water followed by soap and water. Dispose of excess dichromate salts and their solutions down the drain with a large volume of water.

DANGER! CAUSES SEVERE BURN. May be fatal if swallowed. Do not get on your skin, eyes, or clothing. Avoid breathing vapor. Use with adequate ventilation. Always wash thoroughly after handling. In case of spill, flush away by flooding the entire spill with water. **ALWAYS ADD ACID TO WATER, NEVER WATER TO ACID.** Immediately flush eyes, or skin with plenty of water for at least 15 minutes.

IF FOR ANY REASON YOU DO NOT WISH TO ASSUME ALL RISKS IN USING THESE CHEMICALS, PLEASE RETURN THEM FOR A FULL REFUND.

FOR BEST RESULTS USE DISTILLED WATER

MIXING THE SOLUTIONS

DEVELOPER

Mix PART A-1 in one liter of deionized water, and mix until the chemical is entirely into solution. Add PART A-2 to the solution, then PART A-3 mixing until all chemical is into solution.

PART B- mix bag PART B into one liter of deionized water. Mix well.

You now have the two stock solutions that may be stored for a very long time in tightly sealed bottles.

Bleach: If reversal bleach is used e.g. the "pyrochrome" bleach, mix the 4 grams of Potassium Dichromate into one liter of deionized water, mixing until chemical is entirely into solution.

Next mix the 8 ml. of Sulfuric Acid 48% into one liter of deionized water. (**Always Acid Into Water**). Pour the first solution into the acid solution and store in a glass bottle tightly sealed.

PREPARATION FOR USE:

Mix 1 PART A + 1 PART B + 1 part deionized water. Use at a temperature of 80°F (28°C) for better and faster penetration into the emulsion. Development time: 1 1/2 - 2 minutes.

The mixed working solution is very stable and can be used for many weeks if it is kept in a bottle when not in use. One liter of mixed developer can be used for at least 100 4x5 plates. After development the "pyrochrome" bleach may be used with good results.

USING THE BLEACH

The "Pyrochrome" bleach gives less noise and higher quality holograms if it is used more diluted.

Dilute the stock solution in the following manner:

One part stock solution + five parts deionized water. The bleach works rather slowly (5-15 minutes) but it is gentler to the emulsion, which results in better holograms.

