

# Household Photographic Chemical Wastes

#0619

November 1996

No. 8

## F A C T S

- Many of the chemicals used in film processing can be toxic or hazardous to human health if used or disposed improperly.

The discovery many years ago that silver atoms have unusual light-scattering properties when exposed to light led the revolution of photography. The field of photography has wide appeal among both amateurs and professionals. Many chemicals are used in processing film and making prints. The photography **chemicals** most often used at home are those involved in black-and-white film processing.

Photographic film is coated with an emulsion containing light-sensitive silver halide crystals. Once film has been exposed, it must go through a series of chemical processes to bring out the image. The first step is **known as development**, and developers such as hydroquinone, catechols and aminophenols are used. Development is stopped by putting the film **in a stop bath**, which usually contains a solution of dilute acetic or muriatic acid. Next, fixers are used to remove any unreacted silver halide from the film.

primary ingredient in a solution is usually either sodium or ammonium thiosulfate. Washing

finishes the treatment process by removing any contamination from previous treatments. Finally, the film is dried.

Many of the chemicals used in film processing can be toxic or hazardous to human health if used or disposed improperly. For example, acids used in developing film can burn and blind you. However, properly mixed and diluted black-and-white photography solutions can be flushed with plenty of water down a drain connected to a sanitary sewer system. Do not dispose of these solutions in your septic system. Ask a friend or relative who is connected to a sanitary sewer system if you can dispose of your diluted solution down their drain. Silver recycling equipment is available for recovering the silver from

the fixer solution (check with your photo dealer).

Unmixed chemicals need to be disposed of through a licensed hazardous waste handler, or through a household hazardous waste collection event. Contact your local solid waste management district (listed under County Government in your phone book) for guidance. Try to use up your chemicals, or find someone who can use them, rather than disposing of them. Check with local schools, photographic material suppliers, or photography clubs for possible outlets.

Safety tips for using and storing photographic chemicals:

- always read and follow label instructions;

- wear protective gloves, safety goggles, and an organic vapor respirator, and cover all exposed skin,

- use proper ventilation, such as a canopy-type exhaust hood. A bedroom-type exhaust fan is not adequate;

- **ALWAYS ADD ACID TO WATER** never 'water to acid';

- avoid products containing benzene;

- store chemicals in clearly marked containers that can't tip over;

- store concentrated solutions of chemicals close to the ground;

- take care not to store chemicals that can react with each other physically close to each other; and

- keep out of reach of children or pets.

For information about color developing, and the disposal of color chemicals, contact your chemical supplier for advice, or the Eastman Kodak environmental hotline at 1-800-242-2424.

