Managing Photographic and X-ray Waste

Minnesota Pollution Control Agency

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What are photographic and x-ray wastes and why are they a problem?

Many wastes from photographic or x-ray film processing are regulated by the Minnesota Pollution Control Agency (MPCA) under the Hazardous Waste Rules because they either have a high or low pH (are corrosive) or may release silver or chromium (are toxic).

This fact sheet offers guidance on managing these common photographic and x-ray related wastes:

- Fixer solutions and rinse solutions following fixer baths
- Developer solutions
- Developer system cleaners
- Film, negatives, and photographic paper

Waste minimization

The most effective way to reduce your hazardous waste responsibility and cost is to reduce the amount or toxicity of the waste you generate. Digital and less-toxic chemical alternatives are now available for many photographic and x-ray processes. The Minnesota Technical Assistance Program (MnTAP) has staff and resources to help you reduce your hazardous waste amount or toxicity through product substitution and process review. See *More information*, page three, for contact information.

Fixer and rinse solutions

Waste fixer and rinse solutions commonly contain silver at concentrations of five parts per million (ppm) or more causing them to be toxic hazardous wastes. Silver has economic value; you can remove it from the waste ('treat' it) by using a silver recovery unit at your site. You may discharge treated fixer and rinse solutions to a sanitary sewer system if, after you notify the receiving publicly owned treatment works operating authority (POTW), you abide by their prohibitions and limitations. The POTW is commonly your local municipality; in the metropolitan area, it is Metropolitan Council Environmental Services (MCES). To notify the POTW, you may use MPCA hazardous waste form #7.11, Sewered Waste Notification Form, at http://www.pca.state.mn.us/publications/w-hw7-11.pdf.

Minnesota Pollution Control Agency • 520 Lafayette Rd. N., St. Paul, MN 55155-4194 • www.pca.state.mn.us
651-296-6300 • 800-657-3864 • TTY 651-282-5332 or 800-657-3864 • Available in alternative formats

If you treat waste fixer and rinse solutions, you need not count them when you calculate your hazardous waste generator size. However, you must report these wastes annually. You must also develop and follow a written plan to inspect your silver recovery unit and its connections regularly to ensure the unit is working properly and connections are not leaking. If the manufacturer of your silver recovery unit has specified inspection intervals, you must inspect your unit at least as often as that schedule directs. Document inspections and any maintenance you perform on the unit.

If you do not treat your waste fixer and rinse solutions at your site, you may have them recycled off site. If you intend to discharge untreated fixer and rinse solutions to the sanitary sewer system, notify the POTW first. While some sewer authorities may allow you to discharge untreated fixer and rinse solutions, many do not accept untreated silver-containing wastes. Include all untreated waste fixer and rinse solutions when calculating your hazardous waste generator size and report these wastes annually.

The MPCA allows accumulation of fixer and rinse solution without meeting normal hazardous waste container and labeling requirements; however, you are still responsible for any spills before they leave your site. To prevent spills and ensure appropriate cleanup should it be necessary, the MPCA recommends that you label containers with the contents and ensure they are closed tightly.

Regardless of whether you treat waste fixer and rinse solutions, you may not discharge them to a septic system or dry well (called a subsurface sewage treatment system or SSTS).

The MPCA allows transport of both treated and untreated waste fixer and rinse solutions without a hazardous waste manifest; you remain responsible for proper management.

Developer solutions

Unused developer solutions commonly have a pH of 12.5 or higher causing them to be corrosive hazardous wastes. While the pH of *used* developer solutions may be below this threshold, you are responsible for evaluating to determine whether the waste solution is hazardous for corrosivity or any other reason. Regardless of hazardous waste status, used developer solutions often remain caustic; handle them in a way that will protect employees.

Do not discharge waste developer solutions to an SSTS. If you intend to discharge treated or untreated developer solutions to a POTW, notify the POTW first. Your POTW may allow you to discharge treated or untreated developer solutions if you abide by their prohibitions and limitations. The POTW may require that you adjust the pH to within certain limits before accepting the discharge. You may use the Sewered Waste Notification Form to notify the POTW.

Manage waste developer solutions that are not discharged to a POTW as a fully regulated hazardous waste:

- Count the total amount when calculating your hazardous waste generator size
- Report amounts annually
- Meet container and labeling requirements
- Use a uniform hazardous waste manifest when the waste is transported off site

Developer system cleaners

Unused developer system cleaners commonly contain chromium at a concentration of five ppm or more, making them a toxic hazardous waste. *Used* cleaners may contain silver in amounts that make them hazardous for silver as well. Do not discharge waste developer system cleaners to an SSTS. If you intend to discharge used or unused developer system cleaners to a POTW, notify the POTW first. While some sewer authorities may allow you to discharge developer system cleaners, many do not accept untreated silver or chromium-containing wastes. You may use the Sewered Waste Notification Form to notify the POTW.

Manage developer system cleaners that are not discharged to a POTW as a fully regulated hazardous waste as discussed in *Developer solutions* above.

Film, negatives, and photographic paper

Waste photographic film, negatives, paper, and old x-ray film may contain silver at concentrations of five ppm or more, causing them to be toxic hazardous wastes. You may assume that all x-ray film manufactured after 1976 has silver concentration low enough to be non-hazardous. Since silver has economic value and can be recycled, the MPCA recommends that you segregate recyclable waste film, negatives, and paper from other wastes and store them in containers labeled "For Recycling". The MPCA will allow you to accumulate hazardous waste film, negatives, and paper without meeting the normal hazardous waste container and labeling requirements. Additionally, the MPCA allows hazardous waste photographic and x-ray film, negatives, and paper to be transported without a uniform hazardous waste manifest whether or not they will be recycled. You remain responsible for proper management.

Recycled hazardous waste photographic and x-ray film, negatives, and paper need not be counted when calculating your hazardous waste generator size, or reported on your license application. Ensure that you document the recycling.

If not recycled, count all wastes when calculating hazardous waste generator size and report them on your license application.

More information

Your metropolitan county and the MPCA have staff available to answer waste management questions. For more information, contact your metropolitan county hazardous waste office or your nearest MPCA regional staff. For information about waste reduction, contact MnTAP.

For questions regarding discharging wastes in the Minneapolis/St Paul metropolitan area, contact MCES. For questions regarding discharging wastes elsewhere in Minnesota, contact your local POTW operating authority.

Metro County Hazardous Waste Offices

Anoka 763-422-7093
Carver 952-361-1800
Dakota 952-891-7557
Hennepin 612-348-3777
Ramsey 651-266-1199
Scott 952-496-8475
Washington 651-430-6655
Websites ..... http://www.co.[county].mn.us

Metropolitan Council Environmental Services

Metropolitan area 651-602-1005
Website ..... http://www.metrocouncil.org/water

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Toll free (all offices) 1-800-657-3864
Brainerd 218-828-2492
Detroit Lakes 218-847-1519
Duluth 218-723-4660
Mankato 507-389-5977
Marshall 507-537-7146
Rochester 507-285-7343
St. Paul 651-296-6300
Willmar 320-214-3786
Website ..... http://www.pca.state.mn.us

Minnesota Technical Assistance Program

Toll free 1-800-247-0015
Metro area 612-624-1300
Website ..... http://www.mntap.umn.edu