



FILM DEVELOPMENT GUIDELINE

PURPOSE

Film development (or photo processing) produces fixer waste which contains silver. Silver waste is regulated by the Georgia Department of Natural Resources and the Environmental Protection Agency (EPA) as a hazardous waste. Therefore, this guideline document is to ensure Emory University's compliance with applicable regulations.

SCOPE

This program is all inclusive of Emory University facilities where film is developed. These areas include research, healthcare, media production, and arts among others. Films developed by hand and by machine are covered by this guideline. Both employee and student-controlled areas must follow this guideline.

RESPONSIBILITIES

Environmental Health and Safety

EHSO is responsible for maintaining this guideline in compliance with all applicable regulations and updating it as necessary.

Principle Investigators, Directors, Supervisors, and Managers

The principle investigators, directors, supervisors, and managers have primary responsibility for the management and enforcement the Film Development Guideline.

Employees & Students

Employees and students are responsible for complying with the rules set forth by the Film Development Guideline.

PROCEDURES

General Rule

1. The silver in fixer waste from the film development process may not be discharged down the drain under any circumstances.
2. Fixer waste that has been filtered to remove all of the silver may be discharged down the drain.
3. The Environmental Health and Safety Office (EHSO) strongly encourages, whenever feasible, switching from chemical film development to a digital imaging system.

Manual Film Development

1. Fixer waste must be collected in an appropriate container for disposal through the EHSO. This container must be kept closed at all times (*refer to the 'Guidelines for Chemical Waste Management in Laboratories' for further waste labeling and disposal instructions*).
2. If large volumes of fixer waste are produced, the EHSO may request the area install a silver recovery unit and maintain it as described in item 3 under 'Machine-Based Film Development'.

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Machine-Based Film Development

1. New film developing equipment may not be purchased without prior consent of the Environmental Health and Safety Office. *Contact EHSO at (404) 727-5922 for approval.*
2. For both new and existing film development equipment, one of the following two options must be used to ensure that silver waste is not discharged down the drain.
 - a. Install a silver recovery system. *Contact Leslie Hubble at leslie.hubble@emory.edu or (404)727-3337 for vendor and system information.*
 - b. If the volumes of fixer waste produced are less than 5 gallons per month, users may choose to collect the fixer waste in an appropriate container for disposal through EHSO (refer to the 'Guidelines for Chemical Waste Management in Laboratories' for further waste labeling and disposal instructions).
3. Silver recovery system users must:
 - a. Have their silver recovery system on a maintenance plan and be checked by their service provider to ensure that the silver recovery filter is not overloaded. Overloaded filters will allow silver to pass through to the drain. The maintenance schedule will depend on the type of filter installed and the volume of fixer waste produced.
 - b. Change the silver recovery filter when their service provider deems it necessary.
 - c. Maintain original copies of silver recovery system documentation for at least 3 years. Documentation may include invoices, contracts, work orders, and/or Certificates of Recycling.
 - d. Provide copies of all such documentation to EHSO by email to: leslie.hubble@emory.edu or by mail to:
*Environmental Health & Safety Office
Attn: Leslie Hubble
Mail Stop: 0940-001-1AB
1762 Clifton Road, Ste 1200
Atlanta, GA 30322*

Film Recycling

1. Scrap, expired, and developed film contain some silver and must be properly recycled when no longer needed.
2. Film may be recycled through EHSO or through the service provider for your silver recovery system.
3. When recycling film through a service provider, documentation of film recycling must be obtained and kept for 3 years. Provide copies of film recycling documentation to EHSO as described above.

REFERENCES

1. 40 CFR 260-262, 265 – Environmental Protection Agency
2. Georgia Rule 391-3-11 – Environmental Protection Division