

Reed College Darkroom Safety Manual

June 2026



Table of Contents

1.0 Purpose and Scope	2
2.0 Responsibilities of Positions	2
2.1 Environmental Health and Safety Department (EHS)	2
2.2 Darkroom Management	2
3.0 General Darkroom Safety	2
4.0 Potential Hazards from Darkroom Use	3
4.1 Black and White Developer	3
4.2 Black and White Stop Bath	4
4.3 Black and White Fixer	4
4.4 Color (C-41/RA-4/ECN-2) Developer	4
4.5 C-41/RA-4/ECN-2 Bleach	4
4.6 C-41/RA-4/ECN-2 Bleach + Fix (Blix)	4
4.7 Selenium Toner	4
5.0 Chemical Spills	5

1.0 Purpose and Scope

This information is meant to ensure proper safety precautions when working in the darkroom, and discuss potential associated hazards. This manual should be made available to anyone who plans on using either the Reed student darkroom in the GCC, or the studio art darkroom.

2.0 Responsibilities of Positions

2.1 Environmental Health and Safety Department (EHS)

EHS disposes of chemicals, and provides safety data sheets (SDSs) for chemicals used in the darkroom, in addition to writing and annually reviewing this program.

2.2 Darkroom Management

Darkroom space managers are responsible for ensuring this information is made accessible to anyone who plans on using the darkroom, and ensuring protocols are followed. Darkroom managers are also responsible for maintaining an up to date chemical inventory.

3.0 General Darkroom Safety

- Don't do things you don't know how to do: ask for help before doing a new process, as you will be less familiar with the procedure, as well as any safety precautions it incurs.



- Avoid working in spaces that are not well ventilated - long term inhalation of darkroom chemicals can be dangerous.
- Label chemicals clearly, store in proper receptacles (such as glass bottles), and keep incompatible chemicals separated by storing them in separate bins or locations.
- Use gloves when possible, avoid handling chemicals (especially concentrates) with your bare hands, and try not to spill any on other exposed skin. Wearing clothes that minimize exposed skin is a good idea.
- Do not touch chemicals with bare hands when printing, always use tongs.
- Wear goggles when necessary, such as when mixing chemicals.
- Take special caution when mixing chemicals, ensure you are in a very well ventilated space (ideally a fume hood if mixing particularly dangerous chemicals), and try to avoid working with powdered chemicals if you can, as they are more likely to be inhaled.
- Always be aware of the nearest sinks and eyewash stations in case they are needed.
- Immediately wash skin with soap and water after contact with chemicals, and thoroughly rinse eyes in the emergency eyewash station if chemicals come in contact with eyes.
- Thoroughly wash hands after handling chemicals, especially before eating or drinking.
- Try to avoid spending prolonged periods of time working with chemicals in the darkroom, as prolonged exposure is more dangerous. Make sure to take breaks.
- Clean up thoroughly after you are done.
- Clearly label waste for disposal by EHS. **Don't** mix waste products. Contact EHS to obtain waste disposal jugs if needed.
- Maintain an up to date chemical inventory.

4.0 Potential Hazards from Darkroom Use

In this section we will go through most of the chemicals you could find in a darkroom, break down the hazards associated with them, and describe safety precautions you should take when handling them. For more thorough descriptions of hazards and precautions, consult [safety data sheets](#).

4.1 Black and White Developer

Black and white (B&W) developer generally contains chemicals that are moderately toxic through skin contact and can irritate skin, so precautions such as gloves and minimizing exposed skin should be taken. Some chemicals contained in B&W developer are considered environmental hazards, extra precaution should be taken in disposal of used developer. Ensure developer waste is collected in clearly labeled disposal containers for disposal by EHS. Note: not all black and white processes are the same, some non-standard black and white developers can be more dangerous. Consult SDSs if working with an alternative black and white developer.



4.2 Black and White Stop Bath

Stop is typically an acetic acid solution. Undiluted stop is highly acidic with a pH of around 2, which could damage or irritate skin. Do not work with undiluted stop without wearing gloves. Acetic acid vapors from stop can be irritating if inhaled.

4.3 Black and White Fixer

Rapid fixers contain ammonium thiosulfate, which can be toxic when inhaled, and can become sulfur dioxide when heated or mixed with an acid. **Do not mix fixer with stop solution.** Avoid being exposed to vapors from fixer solutions for extended periods of time, ensure you are working in a well ventilated space and regularly take breaks. Be sure to wear all necessary personal protective equipment when preparing and handling fixer solutions; consult the appropriate safety data sheets for specific recommendations. Used fixer contains silver which can be an environmental hazard, ensure all used fixer solutions are collected in clearly labeled disposal containers for disposal by EHS.

4.4 Color (C-41/RA-4/ECN-2) Developer

Color developer can be treated similarly to [black and white developer](#); however, certain chemicals contained, such as CD-4, are more toxic to the environment, particularly aquatic life. Take extra care to ensure color developer does not go down the sink, and goes into the developer waste jug for proper disposal by EHS.

4.5 C-41/RA-4/ECN-2 Bleach

Bleach is a corrosive that can irritate skin and eyes. Do not handle without proper protective equipment such as gloves and safety glasses. Bleach is also an environmental hazard, pour spent bleach into clearly labeled jugs for disposal by EHS.

4.6 C-41/RA-4/ECN-2 Bleach + Fix (Blix)

Typically you will find the bleach and fix steps combined into one chemical (blix). The hazards and precautions associated with blix are comparable to those of [bleach](#) and [fix](#) individually.

4.7 Selenium Toner

Selenium toner can irritate skin and seriously irritate eyes, wear gloves and safety glasses when working with it. Selenium is considered a hazardous waste by the EPA, so must be clearly labeled and taken to Chemistry 211 for hazardous waste disposal by EHS.



5.0 Chemical Spills

For a minor chemical spill (one that can be *safe*ly cleaned up by one person), notify darkroom management, wear personal protective equipment (PPE) such as gloves, and clean up with an absorbent material such as paper towels. For a major spill, evacuate if necessary and contact Community Safety (503 -788-6666) and/or EHS (503-517-7931). **Do not leave a chemical spill unattended.**

