

Pollution Prevention Opportunities for Photoprocessing

The keys to pollution prevention in photoprocessing are to minimize washwater use, extend bath life, recover silver, and recycle bleach fixer solution.

<u>Y/N</u>	<u>Opportunities</u>	<u>Comments</u>
I.	Good Operating Practice	
—	Segregate waste streams	Spent fix baths should be segregated from rinsewaters and developer solutions because silver recovery is more efficient on the more concentrated spent fix waste stream.
—	Control inventory	Do not allow material to exceed shelf life and then have to be discarded as waste. Use materials on a first-in, first-out basis. Do not get rid of expired products by discharging to wastewater treatment system.
—	Adjust replenishment	Adjust chemical replenishment rates and washwater flow rates on photoprocessor to optimize bath life and reduce wastewater quantity.
—	Keep lids on solutions	In storage, keep lids on bulk solutions to prevent oxidation and contamination of these solutions.
II.	Material Substitution	
—	Change to silverless film	Silver does not end up in rinsewaters or spent fix baths when this type of film is used. Examples include vesicular, diazo, and electrostatic films.
III.	Process Modification	
—	Add ammonium thiosulfate	Addition of this chemical to silver-contaminated bath extends the useful life of the bath
—	Purchase new machines	Purchase new developing machines that use less rinsewater (e.g., countercurrent rinsing) and/or have squeegees or air blades to reduce dragout from chemical baths to rinsewaters.
—	Add acetic acid	Acetic acid added to the fix bath keeps the pH low to maximize soluble complexes, therefore, extend bath life.
IV.	Material Recovery	
—	Recover fix bath silver	Install electrowin unit on fix bath of photoprocessor. Extends bath life.
—	Install electrowin	Install electrowin unit on first rinse and developer waste streams to recover silver from solution and reduce toxicity of wastewater.

- Metal replacement cannister Install cannister on rinsewaters and on effluent of wastewater electrowin to recover silver from solution and reduce toxicity of wastewater.
- Install rinsewater recycling Reduces wastewater.

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(WP,PHOTO)