

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>
<b>I. Good Operating Practice</b>		
___	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.
<b>II. Material Substitution</b>		
___	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.
<b>III. Process Modification</b>		
___	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.
<b>IV. Material Recovery</b>		
___	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)