PRINTING INDUSTRY BMP and Water Based Ink & Cleaners

Pollution Prevention Fact Sheet

ADEM
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The keys to pollution prevention in the printing industry are **material substitution, ink recycling, and minimization of changeover.** Below are some recommendations for good operating practices.

- Segregate spent fix baths segregated from rinse waters and developer solutions. Silver recovery is more efficient on the more concentrated spent fix waste stream.
- Optimize bath life and reduce wastewater quantity by adjusting chemical replenishment rates and wash water flow rates on photoprocessor.
- Keep lids on bulk solutions to prevent oxidation and contamination while in storage.
- Use materials on a first in, first out basis so as to not exceed shelf life and thus reduce waste. Do not get rid of expired products by discharging to wastewater treatment system.
- Purchase ink from distributors that will take back unused or spent ink.
- Special non-drying aerosol materials can be sprayed on ink fountains to keep them from drying out overnight. Fewer ink fountain cleanings will be required.
- Purchase new developing machines that use less rinse water and have squeegees or air blades to reduce dragout from chemical baths to rinse water.
- Add acetic acid to the fix bath. This keeps the pH low, maximizing soluble complexes and extending bath life.
- Recycle inks to make black inks or filter out inks instead of discharging to sewer.
- Change from alcohol based to water based inks and aqueous type cleaning agents.
- Save rinse water and transfer to an ink splitting device that absorbs the various ink pigments on a cellulose-based porous material. Then the nearly clear filtrate may be permitted to flow to the sanitary sewer. (A State Indirect Discharge permit may be required.) The pigment-colored cellulose can be sent along with other wastes to the local landfill.

BENEFITS OF WATER BASED INKS AND CLEANING AGENTS

- Reduce solvent emissions by 80% or more.
- Reduce toxicity of liquid and gaseous wastes by approximately 90%.
- Wastes that were previously classified as hazardous can be recycled or disposed of as nonhazardous, thus saving disposal costs.
- There is no difference in raw material costs for inks and cleaners, productivity may increase, no capital expenditures are required, insurance costs may decrease and nondisposable wiping materials provide a savings.

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