



Environmentally Preferable Purchasing Program

VEGETABLE-BASED INKS



WHO	City Clerk Department Print Shop
WHAT	Vegetable-Based Inks
HOW	Quality Inks & Rollers
COST	Cost Savings of \$920/yr.
BENEFITS	Increased renewable resource content to 75%; Reduced VOC emissions approximately 38%

GREEN PURCHASING

The City Clerk Department Print Shop conducts offset sheet printing and performs 40,000,000 impressions annually to support city department needs. In 2005, with the help of a local vendor, the Print Shop began a transition from petroleum-based inks to vegetable-based to reduce volatile organic compound (VOC) emissions. The first phase focused on the ink used in the four color (cyan, magenta, yellow and black) process printing method. The results were positive: satisfactory drying time and color clarity, and a general reduction in VOCs using vegetable-based inks. The success of these early efforts led to a field test of soy-based inks. Soy-based inks are vegetable-based inks where the predominant oil used is soy. The soy inks were not adopted due to costs. As a final phase, the Print Shop tested vegetable-based pantone inks, named for the pantone color matching system, which are the inks used for 90% of the print jobs. Developed by the local vendor in 2008, vegetable-based pantone inks represent an environmental step forward for the printing industry. The City Clerk Print Shop completed their transition to vegetable-based inks while balancing the city's EPP goals with budget considerations.

BENEFITS

Using vegetable-based ink reduces the use of the nonrenewable resource petroleum by replacing the petroleum-based with inks derived from linseed, soy and china oil. Vegetable-based inks also have reduced volatile organic compound (VOC) emissions, which are linked to the formation of smog and diminished air quality. The products chosen by City Clerk Print Shop increased the renewable resource content of the inks to 75 percent and are 98.5 - 99.5 percent VOC-free.

COST

The switch to low-VOC vegetable-based inks products saved \$920 per year due to an approximate 50 percent reduction in both the use of isopropyl alcohol (used for cleaning) and fountain solution (used for producing prints).

PERFORMANCE

The vegetable-based inks worked on all of the Print Shop's presses. The field test in 2007 of soy-based inks resulted in the ink performing well, with levels of VOCs comparable to other vegetable-based ink. Implementation of soy ink would have increased production costs since the ink cost \$2 more per pound, and the study concluded a transition to soy would not be cost-effective. Soy ink is used, however, for limited specialty projects.

CONTACT

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CITY OF PHOENIX INFORMATION

City Clerk IFB 07-240, Quality Inks and Rollers, is available upon request.