



Colorado Department
of Public Health
and Environment

Fact Sheet - Reducing Alcohol in Fountain Solutions



Advantages of reducing alcohol in your fountain solutions:

- ① Lower VOC emissions
- ② Safer, healthier work environment
- ③ Longer roller and blanket life (alcohol is hard on rollers and blankets)
- ④ Improved printing quality (alcohol deglosses ink)
- ⑤ Possible reduction in operating costs

For lithographic printers, the use of isopropyl alcohol in fountain solutions is a significant source of VOC emissions. Most printers use concentrations of 15-25% alcohol in their fountain solutions, with some small printers using concentrations up to 35% or more.

Many printers, without too much difficulty, have been able to reduce the alcohol concentration in their fountain solution to 5-10%. For most printers achieving this concentration would be a significant improvement and would result in a significant reduction in VOC emissions. While it is also possible to eliminate alcohol use completely (through the use of alcohol substitutes), complete elimination requires more changes to the printing system and tends to be more difficult to implement. The following information focuses on achieving a significant reduction in alcohol use without alcohol replacements.

How do I reduce alcohol in my fountain solutions?

You may need to modify your current system, including your operating practices, to maintain consistent printing quality while you are reducing the alcohol concentration in your fountain solution.

The key system changes are:

✿Maintain consistent water quality

You may need to switch to higher quality water for your fountain solutions, by either purchasing distilled water or installing a reverse osmosis water treatment system.

Note: most larger shops have reverse osmosis units and many smaller shops purchase distilled water.

✿Monitor and maintain fountain solutions

You may need to monitor pH and/or conductivity to maintain your fountain solutions and your printing quality. You should add water, fountain solution concentrate, or alcohol only as needed. If you have a recirculating fountain solution system, adding filters will help maintain the quality of the fountain solution and also extend its life. Filters can remove impurities such as paper dust and lint, as well as ink residue.

✿Lower Durometer rollers

You should use lower durometer rollers (22-25) and properly maintain your rollers and blankets.

It is important that you have the motivation to make the necessary changes. Keep in mind that the modifications required can take some time to implement and you may experience some initial set-up problems.

Where can I get additional information and assistance?

Talk to the vendor that supplies you with fountain solutions. Often they can offer you technical assistance and provide further information about how you can reduce your alcohol use. The Pollution Prevention Program at the Colorado Department of Public Health and Environment can furnish you with a list of printers in Colorado who have successfully reduced their alcohol use. Please call Kirk Mills at (303) 692-2977 for a copy of the list.

This fact sheet was compiled by the Colorado Department of Public Health and Environment's Pollution Prevention Program with the assistance of the Iowa Waste Reduction Center. For more information call Kirk Mills at (303)692-2975.