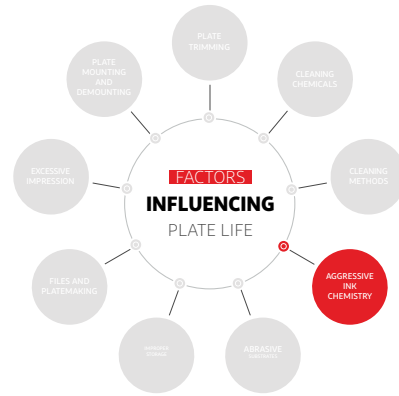


# Aggressive Ink Chemistry



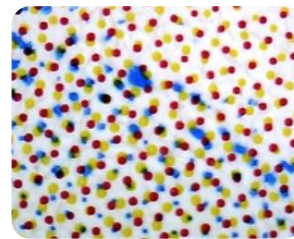
## Ink Management

Since it's inevitable that plates will be in contact with inks during a press run, we need to make sure the ink chemistry does not damage the photopolymer on the plate.

It's always best to work with your ink supplier to develop the optimal ink package and ink parameters (pH, Viscosity, temperature, etc.). Running inks outside the recommended parameters introduces print defects and can damage the printing plates. Your ink supplier can also recommend the optimal room temperature and humidity which is critical for ink drying.

Before printing or even before taking any ink property measurements, we need to verify if the ink is mixed well. Water based and solvent based inks are stirred, but uv inks are shaken in their container. Measure and adjust the pH first before measuring viscosity.

In certain situations, you may need to introduce an additive to your ink, but many times fresh ink is your best additive. Have your ink supplier train your press operators and ink technicians on when and how to adjust inks with additives.



Excessive additive (glycol) in Cyan ink

Below are the recommendations we have found to work well

	Water based ink	Solvent based ink	UVbased ink
Viscosity	15 - 18 sec (#3 Zahn)	20 - 27 sec (#2 Zahn)	-
pH	9.0 - 9.6	-	-
Temperature	70-90 degF	73-82 degF	< 90 degF

## Defoamers

When using water based inks, foaming is almost inevitable. Inks have a certain amount of defoamers in their formulation, but press operators normally have extra defoamer on hand. We want to use as little defoamer as possible since defoamers contains oils, which can be incompatible with the photopolymer plates and cause plate swell.

Here are some recommendations if defoamers have to be used:

- Defoamers should be cut with water to manufacturer specifications.
- If used in excess, will begin to deteriorate or dissolve the minimum highlight dots on the photopolymer plate.
- Unmanaged ink foam will create micro-bubbles leading to ink and print inconsistencies.
- Defoamers should be put in a spray bottle and should be sprayed to dissipate the foam rather than poured into the ink.



Micro Bubbles seen in the ink which can cause print issues



The ink is being "dropped" - into bucket adds air to the ink system

For more information on DuPont™ Cyrel® or other DuPont products, please visit [cyrel.com](http://cyrel.com)

The information provided in this document corresponds to our knowledge on the subject at the date of its publication. It may be subject to revision as new knowledge and experience becomes available. This information is not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. Since we cannot anticipate all variations in end-use and disposal conditions, DuPont makes no warranties and assumes no liability in connection with any use of this information. It is intended for use by persons having technical skill, at their own discretion and risk. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent right. DuPont™, the DuPont Oval Logo, and Cyrel® are trademarks or registered trademarks of DuPont or its affiliates. Copyright © 2020 DuPont de Nemours Inc. All rights reserved.

DUPOINT

Cyrel.