

chemelx[®] Product Data Sheet

Date: 03/18/02

Supersedes: 02/13/01

PRODUCT #: N8683

DX-40

Aqueous Developer Concentrate

DESCRIPTION: A one-part concentrate (40% potassium carbonate) formulated to develop fully aqueous dry film photoresists. **DX-40** is economical to use and easy to handle, eliminating the need to weigh and dissolve powdered materials. It contains a unique blend of ingredients to enhance the loading capacity of the solution and help keep the equipment clean. These special ingredients help ensure straight sidewalls and will help clean the "foot" of underdeveloped polymer. These features result in greater productivity and less down time. **DX-40** also works well for developing aqueous photoimageable solder masks or for any other situation where carbonate is used.

BENEFITS:

- Produces finer lines and spaces than generic potassium carbonate developers
- Cleaning agent to keep equipment cleaner and reduce maintenance time
- Buffering agents to maintain pH
- Effective on all photoresists and solder masks

SPECIFICATIONS:

Density:	1.44 gm/ml, 12.0 lbs./gal.
Flash Point:	None
Shelf life:	Indefinite

INSTRUCTIONS: **DX-40** should be diluted to 1.5 – 1.8% by volume to get 0.85 – 1.0% by weight carbonate concentration. Follow the photoresist manufacturer's recommendation for carbonate concentration of the developer solution and temperature, normally 75°-90°F. Analyze new solution for concentration according to analysis on reverse side.

Developer Makeup

For 0.85% potassium carbonate:	Volume of DX-40 = Sump Size (gal) X 0.015
For 1.0% potassium carbonate:	Volume of DX-40 = Sump Size (gal) X 0.018

Replenishment can be controlled by pH or by panel count. The set point for pH replenishment is typically between pH 10.6-10.7, or as specified by the photoresist manufacturer. Monitor the break point, and adjust the conveyer speed to permit clean development at approximately 50% of the distance through the developing chamber. If the break point is past 50% of the chamber, reduce conveyor speed, increase the pH set point of controller, or increase the volume of replenishment solution added.

Add 4-7 ml of Chemelex[®] **ANTIFOAM BB** per gallon of developer solution at makeup a again as needed. For automatic antifoam addition systems, use **ANTIFOAM DES** or **ANTIFOAM LC**.

