

## Product Data Sheet

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**PRODUCT #: N8022**

# *POSICLEAN™ C*

Acid Copper Cleaner

**DESCRIPTION:** An acid, organic, water soluble, heavy duty cleaner which has been formulated for use with fully aqueous photoresists. It works very well as a soak cleaner in pre-plate cleaning cycles because of its extremely low etch rate. It is especially effective in the cleaning of handling soils (fingerprints). *POSICLEAN™ C* is supplied in concentrated form and should be diluted with water, as specified below. *POSICLEAN™ C* can be followed by a microetch to achieve increased adhesion when needed.

**BENEFITS:**

- **Concentrated formula provides extended bath life**
- **Effective on fingerprints at low concentration**
- **Provides complete cleaning of both organic and inorganic soils without excessive copper etch**
- **Etch rate at 100°F is less than 1 millionth inch per minute**
- **Rinses easily with warm water, spray or soak**

**SPECIFICATIONS:**

<b>Density:</b>	1.28 gm/ml, 10.7 lbs./gal.
<b>pH at 10% :</b>	< 1
<b>Flash Point (TCC):</b>	None
<b>Shelf life:</b>	Indefinite

**INSTRUCTIONS:**

<b>Concentration:</b>	10 - 15% by volume
<b>Temperature:</b>	70° - 100°F
<b>Time:</b>	2 - 5 minutes

Control: Maintain concentration according to analysis on back. The bath is considered spent when the pH reaches 2.5.

Equipment should be constructed of polypropylene, polyethylene or PVC. Heaters should be quartz or Teflon.

**CAUTIONS:**

*POSICLEAN™ C* cannot be used as a spray cleaner.

The etch rate should be monitored by standard weight loss tests, especially when used with electroless copper.

*POSICLEAN™ C* is acidic; glasses or goggles and gloves should be worn when handling this product. In case of contact with skin or eyes, flush immediately with water and obtain medical attention. For further information, refer to Material Safety Data Sheet.

**DISPOSAL:**

To treat spent *POSICLEAN™ C*, add caustic to raise the pH to 7.0-8.0. Add 5% ferrous sulfate solution and allow precipitate to form to remove complexed copper. Let settle for four hours and decant. Dispose of precipitated metals in accordance with all local, state and federal regulations.

***POSICLEAN™ C***  
Analysis Procedure

**Equipment required:** 25 ml burette  
250 ml Erlenmeyer flask  
50 ml volumetric pipette  
Dropper

**Reagents required:** 1.0N sodium hydroxide solution  
0.04% Bromphenol Blue indicator

**Procedure:**

1. Pipette 50 ml of *POSICLEAN™ C* working solution into a 250 ml Erlenmeyer flask.
2. Add 4-5 drops Bromphenol Blue indicator
3. Titrate with 1.0N sodium hydroxide to a blue end point. Color change is yellow to bright blue.

**Calculation:** 
$$\frac{\text{mls of 1.0N sodium hydroxide}}{2.8} = \% \text{ POSICLEAN™ C}$$

This product should be used only for its intended purpose. The information stated above is based on our laboratory tests and experience, and is accurate to the best of our knowledge. Since actual use is beyond our control, the recommendations or suggestions are made without warranty, expressed or implied.