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Product Data Sheet

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PRODUCT #: N7120

CIRCUTEK CC-904

Alkaline Cleaner/Conditioner

DESCRIPTION:

An alkaline solution to prepare and condition printed circuit boards for through-hole metallization. **CIRCUTEK CC-904** is specially formulated to remove fingerprints, light soil and other contaminants from copper foil. It also conditions hard to catalyze surfaces such as organic resin and glass for subsequent electroless copper deposition. **CIRCUTEK CC-904** is supplied as a liquid concentrate.

BENEFITS:

- Combines cleaning with conditioning of the resin surface
- Effective cleaning with clean rinsing characteristics

EQUIPMENT:

Tanks should be constructed of polypropylene, high temperature PVC or stainless steel. Heaters should be constructed of Teflon[®], stainless steel or titanium.

MAKE-UP/ OPERATING INSTRUCTIONS:

CIRCUTEK CC-710: 10% by volume
Deionized Water: 90%
Temperature: 130 - 150°F
Immersion Time: 3 - 6 minutes
Agitation: Work bar agitation

Procedure:

1. Fill tank $\frac{3}{4}$ full with deionized water.
2. Add the required amount of **CIRCUTEK CC-904** and mix well.
3. Adjust to final volume with deionized water and mix well.

CONTROL PARAMETERS:

To achieve optimum results, the bath should be maintained at the following concentration

<u>CIRCUTEK CC-904 Cleaner/Conditioner</u>	OPTIMUM	RANGE
CIRCUTEK CC-904 Concentration:	10%	8.5-11.5
Operating pH range:	10.0	8.0-10.5

NOTE : The desmear and electroless copper deposition process is laminate specific. Parameters specified in RBP supplied operating guides for particular installations always supersede the parameters listed above.

**ANALYSIS &
REPLENISHMENT:**

ANALYSIS PROCEDURE FOR *CIRCUTEK CC-904*

Determination of concentration of *CIRCUTEK CC-904*

Equipment: 10 ml pipette Magnetic mixer and 100 ml beaker with stir bar
50 ml buret 250 ml Erlenmeyer flask or beaker
pH meter

Reagents: 0.1N Sulfuric Acid (H₂SO₄) – Commercially available from chemical supplier.
Bromo cresol green indicator.

Procedure:

1. Pipette 10 ml of working solution into a 250 ml Erlenmeyer flask or beaker. Add 50 ml D.I. water.
2. Add 8-10 drops of bromo cresol green indicator solution and mix.
3. Titrate with 0.1N H₂SO₄ until the solution turns from blue to green end point. Record the number of mls.

OR

Titrate with 0.1N H₂SO₄ using a pH meter to an end point of pH 3.8. Record the number of mls.

Calculation: mls of H₂SO₄ X N of H₂SO₄ X 10.5 = % by volume ***CIRCUTEK CC-904***

Maintenance: $\left[\frac{10\% - \% \text{ CC-904}}{\text{from analysis}} \right] \times 3785 \times \text{Tank volume} = \text{mls of CC-904 to add.}$
in gallons

BATH LIFE: ***CIRCUTEK CC-904*** Cleaner/Conditioner should be replaced when the square footage run through the bath exceeds 400 SSF/gal. of working solution or 1500 ppm copper.

CAUTIONS: Avoid skin, oral and eye contact. Wear goggles and protective clothing when handling the liquid concentrate. Flush exposed areas immediately with water and consult a physician in case of injury. Refer to material safety data sheet for further information.

WASTE DISPOSAL: The spent solution contains chelated copper and should be pH adjusted between 8 and 9. Add 1 g/l of ferrous sulfate and heat to decompose the solution and the copper precipitates. Neutralize the resulting solution and dispose in accordance with federal, state and local authorities.

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.