

Cu/ETCH ME-45 Microetch Highly Stable Copper Microetchant

Product Description

Cu/ETCH ME-45 is a highly stable, easy to operate copper microetchant. It is an excellent micro etch for use prior to dry film lamination, oxide coating, electroless plating or solder leveling. Long bath life can be obtained by replenishment based on simple chemical analysis. ME-45 can be operated in either immersion or spray equipment.

Performance Features

- Highly Stable
- Economical
- Long Bath Life
- Formulated for either Immersion or Spray Equipment

Physical Specifications

Physical State	Powder
Appearance	Liquid
Odor	Odorless

Equipment Requirements

Tanks: Constructed Of Polypropylene Or Polyethylene.

Heaters: Quartz Or Teflon.

Racks: Stainless Steel.

Product Make-Up

1. Fill working tank $\frac{3}{4}$ of the way with deionized water.
2. Add required amount of Sulfuric Acid to the tank while stirring. (~ 1 % by volume)
3. Allow solution to cool to 70 – 90°F while continuously stirring.
4. Add required amount of ME-45. Choose either A or B.
 - A. 120 – 180 g/L for foil copper or electroplated copper
 - B. 4 – 8 oz/gal on electroless copper plated panels
4. Bring solution to final volume with deionized water.

Operating Parameters

Operate bath at 75 – 80°F. Do not operate above 85°F.

Technical Data Sheet

Control and Replenishment

Determination of Cu/ETCH ME-45 Concentration

Procedure

1. Pipet a 2.0 ml sample of the working bath and transfer to a 250 ml Erlenmeyer flask.
2. Add 100 mls deionized water.
4. Add 10 mls of Potassium Iodide 10% solution.
5. Add 10 mls of 0.05 M EDTA.
6. Titrate with 0.1N Sodium Thiosulfate to a pale yellow-green color.
4. Add starch indicator and titrate to an almost colorless endpoint.

Calculation

$$\text{ME-45 (g/L)} = \frac{\text{mL Thiosulfate} \times \text{N Thiosulfate} \times 1.82 \times 120}{\text{mL sample}}$$

Determination of Copper Concentration

Procedure

1. Pipet 2 ml of bath sample into a 250 ml Erlenmeyer flask.
2. Add 50% Sodium Hydroxide drop wise with mixing until the brown color persists.
3. Very gently boil the sample until the gassing stops. Do not boil dry.
4. Add 10 ml of deionized water.
5. Slowly add Glacial Acetic acid drop wise while mixing to dissolve the precipitated copper.
6. Add 100 ml of warm deionized water.
7. Add 10 ml of pH 6 buffer.
8. Add 10 drops of PAN indicator.
9. Titrate with 0.05M EDTA to an apple green endpoint.

Calculation

$$\text{g/L Copper} = \frac{\text{mL EDTA} \times \text{M EDTA} \times 63.54}{\text{mL sample}}$$

Safety and Handling

Refer to MSDS before handling this product.

Waste Treatment

Individual users should verify the nature of spent solutions to assure compliance with local, state, and federal regulations. Contact Seacole for specific details and/or further waste treatment recommendations.

Ordering Information

ME-45 is available in 55 lb packages.

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