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## Product Data Sheet

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**PRODUCT #: N5103**

# **MAGNUM S-400**

Sensitizer For Multilayer Hole Cleaning

### **DESCRIPTION:**

The first part of a three step process for multilayer hole preparation. **MAGNUM S-400** is used to prepare resinous substrates for subsequent oxidation by permanganate. When used in conjunction with **MAGNUM K-OXIDIZER** or **MAGNUM N-OXIDIZER**, it penetrates resin smear for effective desmear and etchback. It is equally effective on epoxy and polyimide resin systems. The solution is replenishable and the boards need not be dried prior to processing.

### **BENEFITS:**

- **Wide operating window of concentration and temperature**
- **Formulated for optimum results with *MAGNUM K-OXIDIZER* and *MAGNUM N-OXIDIZER***
- **Effective on both epoxy and polyimide resins systems**
- **Replenishable for consistent steady-state operation**

### **INSTRUCTIONS:**

<b>MAGNUM S-400:</b>	50 - 100% by volume
<b>Deionized water:</b>	Balance
<b>Temperature:</b>	100 - 170°F
<b>Time:</b>	3 - 10 minutes
<b>Agitation:</b>	Mechanical

**MAGNUM S-400** has a wide operating range. It can be used at 100% concentration at 95 - 105°F, or at 50% by volume with water at about 160 - 180°F.

### **EQUIPMENT:**

Polypropylene or stainless steel tanks may be used. Use Teflon or stainless steel steam coils or stainless steel electric immersion heaters to heat the solution. Ventilation of the operating solution is recommended.

### **BATH MAINTENANCE:**

**MAGNUM S-400** is insoluble in alkaline solutions and can be measured by its separation from water. Analyze and replenish according to procedure on reverse.

### **CAUTIONS:**

Avoid skin, oral and eye contact. Wear goggles and protective clothing when handling. Flush exposed areas immediately with water and consult a physician in case of injury. Do not use in equipment constructed with PVC.

### **DISPOSAL:**

Contains biodegradable organic solvents. Dispose of in accordance with federal, state and local regulations.

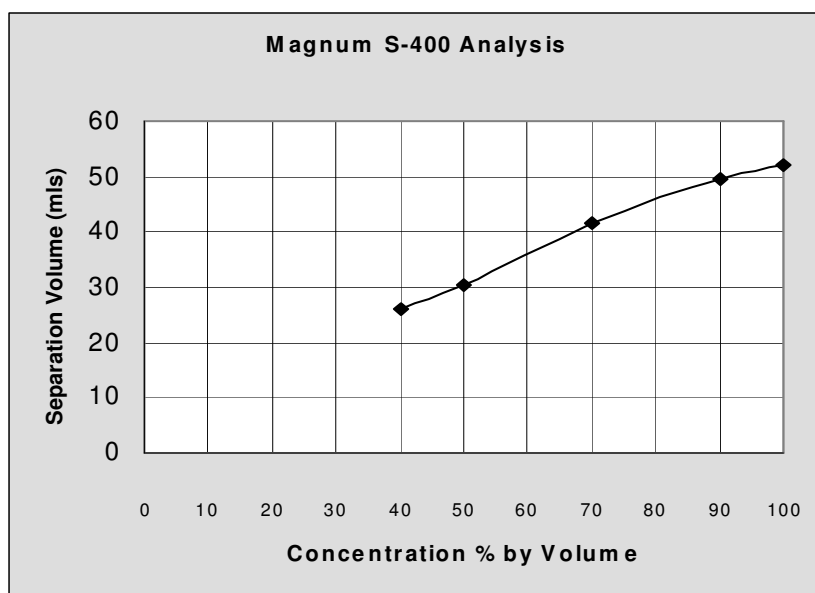
**ANALYSIS:**

**Equipment:** Graduated cylinder, 100 ml  
50 ml pipet  
250 ml Erlenmeyer flask

**Reagents :** Sodium Hydroxide stock solution: 125 g NaOH to 200 ml DI water

**Procedure:**

1. Pipet 50 mls of working bath into 100 ml graduated cylinder.
2. Add sodium hydroxide stock solution to graduated cylinder to the 96 ml mark.
3. Stopper and mix the solution. Allow to stand until there is a clear separation of layers.
4. Measure the volume of the upper layer. Compare to chart below to read concentration.



Add **MAGNUM S-400** concentrate to bring working bath back to original concentration.

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.