POLY/Solv RS-50

Product Description

POLY/Solv RS-50 is a concentrated solution designed to economically and efficiently strip all commercially available, fully aqueous dry film resists. POLY/Solv RS-50's unique formulation does not include sodium or potassium hydroxide, glycol ethers, or alcohols (including methanol). As such, POLY/Solv RS-50 is easier to waste-treat and exhibits less odor than many competitive products.

POLY/Solv RS-50 was formulated to produce stripped resist particles averaging 0.2 - 0.5 cm in diameter, facilitating resist particulate filtration with a rotary drum filtrate or equivalent. POLY/Solv RS-50 also incorporates a unique blend of copper AND SOLDER inhibitor compounds to reduce the attack of solder on hard boards and leave a bright, stable, oxide free copper surface.

Performance Features
• Exhibits minimal chemical and/or galvanic corrosion attack on solder simplifying waste treatment of spent solutions and resist particulate.
• POLY/Solv RS-50 is highly concentrated and is effective at concentrations as low as 5% in spray applications.
• Suitable for feed and bleed processing with an automated resist stripper controller such as Seacole's Chemical Control System.
• Designed for spray applications but effective in immersion tanks as well.

Physical Specifications

Physical State	Liquid
Appearance	Tan-Yellow Solution
Odor	Mild Amine
Stability	Stable
Specific Gravity	1.04
pH	> 12

Equipment Requirements (AC-1S)
Tanks: Constructed Of Polypropylene, Polyethylene, PVC Or CPVC.
Heaters: Quartz, Titanium, Stainless Steel, Or Teflon Encased Steel.
Racks: Should Be Polyethylene, Polypropylene, Stainless Steel Or Plastisol Coated Steel.
Cooling Coils: Constructed Of Polyethylene, Polypropylene, Stainless Steel Or Plastisol Coated Steel.
Ventilation: Recommended
Agitation: Solution Agitation In Immersion Applications Will Significantly Increase The Speed Of Stripping. Spray Processing Will Require The Addition Of Anti-Foam. A Nonpetroleum Based Anti-Foam Such As Seacole's Anti/Foam CR-98S Is Recommended.
Filtration: Continuous Filtration Will Significantly Increase The Life Of The Bath.

Product Make-Up
POLY/Solv RS-50 must be diluted prior to use. The following procedure is recommended.

Procedure
1. Thoroughly rinse the tank and inspect for cleanliness, paying special attention to the heaters and heater sheathings, and cooling coils.
2. Fill the tank half full of deionized water. Add POLY/Solv RS-50 concentrate such that after final dilution the concentration of POLY/Solv RS-50 is 5%-15% by volume. Fill the tank to the operating level with deionized water.
3. Turn on heaters and verify temperature with a thermometer.

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NOTE: To assure optimum performance, it is recommended deionized or distilled water be used to dilute POLY/Solv RS-50.

Operating Parameters
Before preparing the working bath, make sure the tank is clean and free of all prior resist, dirt, or previous solution deposits. It is recommended an initial concentration of 6% by volume POLY/Solv RS-50 (6 gallons of POLY/Solv RS-50 for every 94 gallons of water) be employed. The optimum concentration at which to employ POLY/Solv RS-50 should be determined by testing. The optimum concentration will be dependent upon, in decreasing order of importance: resist thickness, type of resist, spray pressure, and temperature of the operating bath.

IMMERSION APPLICATIONS
Heat the bath to 125°F to 140°F. Employ mild mechanical solution agitation and immerse the printed circuit boards for 1-4 minutes. Allow the parts to remain immersed for an additional thirty seconds after the resist has been completely removed. After stripping, follow with a clean water rinse in a separate tank and allow the parts to air dry or preferably use forced warm air drying.

The solution level can be maintained using the post rinse water. In general, POLY/Solv RS-50 concentrate should be added at a rate of one liter for every 120 - 170 mil ft² of work processed.

SPRAY APPLICATIONS
BATCH
Heat the bath to 125°F to 140°F. Adjust the conveyor speed so the breakpoint occurs at 40-50% within the spray chamber. As the bath ages the strip speed will diminish. Additions can be made of approximately one liter of POLY/Solv RS-50 for every 150 mil square feet of resist stripped. The bath should be dumped when additions of POLY/Solv RS-50 will no longer increase the speed.

BLEED AND FEED
POLY/Solv RS-50 can also be operated on a feed and bleed basis utilizing Seacole's chemical control system. This blends POLY/Solv RS-50 concentrate with water automatically and makes additions based upon panel count. When employing Seacole's chemical control system, adjust the concentration of the output by measuring the concentration of POLY/Solv RS-50 utilizing the procedure in the Control and Replenishment section of this technical brochure. The concentration of the output should be 6% by volume POLY/Solv RS-50. Once the concentration has been adjusted, program the controller to make additions of diluted POLY/Solv RS-50 at a rate of 3 liters for every 15 panels processed. Typically, this will involve opening the solenoid shut-off valve for 10 seconds every 15 panels. It is highly recommended the bath be filtrated in conjunction with feed and bleed additions. Employing a resist filtration device can increase the bath life and reduce the dump frequency by as much as 50%.

STRIP TIME
Strip time will increase with solution use and resist build-up. The temperature of the stripping bath will affect the strip rate exponentially as the temperature increases. You will also note that a bath in production will produce larger resist skin particulate at higher temperatures. Depending upon the strip rate desired and the method for filtering resist skins from the bath, adjust the bath temperature accordingly.

Control and Replenishment
The percentage by volume (% v/v) of POLY/Solv RS-50 in the working bath or diluted feed line can be calculated using the procedure below

Equipment Required	Reagents Required
Buret, 50 ml	Bromocresol Green Indicator
Erlenmeyer Flask, 250 ml	Hydrochloric Or Sulfuric Acid - Standardized .10N
Pipet, 5 ml	

Procedure
1. Pipet 5 ml of sample into a 250 ml Erlenmeyer flask containing approximately 50 ml of deionized water.
2. Add approximately 10 drops of indicator and titrate with standardized acid from a blue green to a yellow endpoint. Record the mls of titrant required to reach the endpoint

Calculation

$$\frac{A \times B \times 8.0}{C} = \%\ v/v\ RS\text{-}50\ in\ sample$$

Where
A = volume of titrant required in ml
B = N of the titrant
C = sample volume in ml

Additions of POLY/Solv RS-50 concentrate can be made directly on a percentage by volume basis to raise the concentration to the desired value.

Safety and Handling
Read and understand this product SDS before handling.

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
POLY/Solv RS-50 is available in 5-gallon pails, 55-gallon drums, and 275-gallon totes.

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