

## POLY/Solv RS-720

### A Liquid Concentrate Designed to Strip Fully Aqueous Dry Films

#### Product Description

POLY/Solv RS-720 (RS-720) is a highly concentrated solution designed to economically and efficiently strip most commercially available, fully aqueous dry film resists. RS-720's unique formulation contains penetrating additives designed to reduce entrapment of dry film in areas exhibiting tin or tin/lead over-plate. Additionally, RS-720 does not include sodium, potassium, or ammonium hydroxide, or alcohols (including methanol); reducing alkaline attack of copper, tin, and solder. As such, RS-720 is easier to waste treat and exhibits less odor than many competitive products. RS-720 was formulated to produce stripped resist particles averaging 0.2 - 0.5  $\mu$ m in diameter (with most dry films), facilitating resist particulate filtration. RS-720 also incorporates a unique blend of inhibitor compounds to minimize corrosion of tin-lead and/or solder on hard boards and leave a bright, stable, oxide free copper surface suitable for AOI inspection.

#### Performance Features

- Exhibits minimal chemical and/or galvanic corrosion attack on solder simplifying waste treatment of spent solutions and resist particulate.
- The formulation of RS-720 does not contain sodium or potassium hydroxide, glycol ethers, or alcohols.
- RS-720 is highly concentrated and is effective at concentrations as low as 4% in spray applications.
- Suitable for feed and bleed processing with Seacole's automated resist stripper controller.
- 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	1.00
pH	>12

## Technical Data Sheet

### Equipment Requirements

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

RS-720 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 with deionized water. Add RS-720 concentrate such that after final dilution the concentration of RS-720 is 4-10% by volume. Fill the tank to operating level with deionized water.
3. Turn on heaters and verify temperature with a thermometer.

NOTE: To assure optimum performance, it is recommended deionized or distilled water be used to dilute RS-720.

### **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, RS-720 concentrate should be added at a rate of one liter for every 120 - 170 mil ft<sup>2</sup> of work processed.

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### **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 RS-720 for every 150-mil square feet of resist stripped. The bath should be dumped when additions of RS-720 will no longer increase the speed.

#### **BLEED AND FEED**

RS-720 can also be operated on a feed and bleed addition basis utilizing Seacole's Chemical Dosing Device system. Seacole's Chemical Dosing Device blends RS-720 concentrate with water automatically, and makes additions based upon panel count. When employing Seacole Chemical Dosing Device, adjust the concentration of the output by measuring the concentration of RS-720 utilizing the procedure in the Control and Replenishment section of this technical brochure. The concentration of the output should be adjusted to match the concentration of the working bath. Once the concentration has been adjusted, program the controller to make additions of diluted RS-720 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 is increased. You will also observe that a production bath produces 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.

#### **RESIST PARTICULATE FILTRATION**

The use of a filtration device will significantly increase the life of the resist-stripping bath. For more information contact Seacole or you're nearest distributor.

#### **Control and Replenishment**

The percent by volume (% v/v) of RS-720 in the working bath or diluted feed line can be calculated using the procedure below.

<b>Equipment Required</b>	<b>Reagents Required</b>
Buret, 50 ml	Methyl Red 0.1% Indicator
Erlenmeyer Flask, 250 ml	Hydrochloric Or Sulfuric Acid, Standardized, 1.0 N
Pipet, 5 ml	

## Technical Data Sheet

### 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 yellow to a pink endpoint. Record the mls of titrant required to reach the endpoint.

### Calculation

$$\frac{A \times B \times 7.14}{C} = \% \text{ v/v RS-720 in sample}$$

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

Additions of RS-720 concentrate can be made directly on a percent by volume basis to raise the concentration to the desired value.

### Safety and Handling

Read and understand this products MSDS 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

RS-720 is available in 5-gallon pails, 55-gallon drums, and 275 gallon totes.

13505 Industrial Park Blvd. Plymouth, MN 55441