

# ENTHONE® PR3011

## Alkaline Soluble Plating Resist

### DESCRIPTION

PR3011 plating resist is screen-printable and alkaline strippable. The formula has high molecular weighty resin chemistry to provide exceptional printing, adhesion, flexibility, and chemical resistance. This medium viscosity resist is highly thixotropic and provides fine-line definition.

PR3011 may be used as a plating resist or etch resist. As a plating resist, PR3011 provides excellent resistance to acidic solutions of copper, tin/lead solder, tin nickel, bright acid tin, and gold. As an etch resist, PR3011 will withstand common acid copper etchants. For superior performance, pH levels should be maintained below 8.0 throughout etching plating. When thinned with ethyl alcohol, these resists may also be used for hole plugging.

### SCREEN PRINTING

**FABRIC:** Stainless steel fabric with a mesh count from 200 to 325 is recommended. Equivalent polyester fabrics may also be used. Mesh tension should be to manufacturer's recommendations.

**SQUEEGEE MATERIAL:** 70-80 durometer, sharp and free of nicks. Squeegee durometer, pressure, angle, and speed should be adjusted according to overall printing parameters to ensure appropriate print definition, ink film, thickness, and repeatability.

**STENCIL MATERIAL:** Direct, Indirect, or Direct/Indirect.

**THINNING:** PR3010 Series may be applied directly without thinning. Although thinning is not recommended, flow properties may be adjusted with small amounts of AD2003 or carbitol acetate.

**REMOVAL:** Cellosolve acetate or butyl cellosolve will effectively clean screens and equipment. An addition of 1-2% sodium hydroxide to one of these solvents is also an effective screen wash. Any good lacquer-wash thinner or proprietary screen wash may also be used.

### RECOMMENDED CURING

Heat cure 20 minutes at 180°F-200°F (82°C-93°C). Convectional ovens should have sufficient air movement to ensure solvent removal.

## **PRECLEANING**

Preplate cleaners should be acid or neutral in pH, and followed by two water rinses.

Some recommended precleans are:

Chemline #5	MacDermid Metex L5B and 9268
Dynachem LAC41	Oakite 32
Enthone 295, 482 & 485	Riston AC500
Hubbard Hall PC1	

These products constitute a portion of precleaning solutions available for use with PR 3011. Contact preclean manufacturers for specific information.

Through precleaning PR3011 resist functions effectively when dwell times do not exceed three minutes. For best results, solution temperature should be maintained at 100°F or below.

Reverse current cleaning is not recommended.

An alkaline solution is recommended for the removal of PR3011.

## **STRIPPING**

ConveyORIZED Stripping: 2-4% sodium hydroxide or potassium hydroxide solution.

Dip Stripping: 4-6% sodium hydroxide or potassium hydroxide solution. A water blast following a brief immersion will facilitate stripping action.

## **PHYSICAL PROPERTIES PR3011**

<b><u>Property</u></b>	<b><u>Value</u></b>	<b><u>Test Method</u></b>
Color:	Black	Visual
Nonvolatile content %:	56.5	ASTM D 1259
Specific Gravity:	1.15	FTMS 141 a/Method 4184.1
Flash Point, °C (°F), toc:	108 (225)	ASTM D 1310

## **PACKAGING**

PR 3011 is available in one-gallon plastic containers. Please contact your distributor for ordering information.

## **STORAGE & HANDLING**

PR3011 should be stored at room temperature (80°F maximum) or below and out of direct sunlight.

## **SAFETY**

Information on the safety, health and environmental attributes of this product is set forth in the material safety data sheet (MSDS) and on the product label. Enthone provides the MSDS and product label to customers with all samples, as well as with the initial shipment of product and whenever an update is issued. Copies of the MSDS and label are also available at any time upon request.

The safety, health and environmental information set forth in the MSDS and label should be considered in determining the appropriateness of this product for any particular application, and should be used to determine appropriate engineering controls, protective equipment, work practices, and other precautions to be observed in the use of this product in any particular process or working environment.

MATERIAL SAFETY DATA SHEETS

For more detailed information on the toxicological properties of the products described herein, reference can be made to the Material Safety Data Sheet (MSDS) for each product. If you do not have the proper MSDS, it can be requested from: Enthone Inc., attention: Regulatory Affairs Department, P.O. Box 1900, New Haven, CT 06508. For emergency assistance call CHEMTREC (800) 424-9300.

WARRANTY AND DISCLAIMER

The information presented herein is to the best of our knowledge true and accurate and all recommendations and suggestions appearing in this bulletin covering the use of our products are based upon information believed to be reliable. However, since the conditions of use are beyond our control, this information is given on the express condition and agreement that Enthone Inc. will not be liable to any person in contract, tort (including negligence), strict liability or otherwise for any claims, damages or losses whatsoever. Nothing herein shall be deemed a recommendation to use any product or process in violation of any existing patent rights and no warranties, expressed or implied, are made regarding the information, product, processes, recommendations, description and safety notations contained herein. The above includes proprietary information of Enthone Inc. and is furnished to you for your use solely on products or processes supplied by us to you.

Enthone-OMI (Canada) MATERIAL SAFETY DATA SHEETS

For detailed information on the toxicological properties of the products described herein, reference can be made to the Material Safety Data Sheet (MSDS) for each product. If you do not have a current MSDS, it can be requested from the W.H.M.I.S. coordinator, Enthone-OMI (Canada) Inc., 121 Watline Avenue, Mississauga, Ontario, L4Z-1P2. For emergency assistance regarding accidents with this product resulting in container rupture, spills, poisoning, bodily injury or threats to health call: CHEMTREC (800) 424-9300.

Enthone-OMI (Canada) WARRANTY AND DISCLAIMER

The information presented herein is to the best of our knowledge true and accurate and all recommendations and suggestions appearing in this bulletin covering the use of our products are based upon information believed to be reliable. However, since the conditions of use are beyond our control, this information is given on the express condition and agreement that Enthone-OMI (Canada) Inc. will not be liable to any person in contract, tort (including negligence), strict liability or otherwise for any claims, damages or losses whatsoever. Nothing herein shall be deemed a recommendation to use any product or process in violation of any existing patent rights and no warranties, expressed or implied, are made regarding the information, product, processes, recommendations, description and safety notations contained herein. The above includes proprietary information of Enthone-OMI (Canada) Inc. and is furnished to you for your use solely on products or processes supplied by us to you.

CUSTOMER ORDER CENTERS

UNITED STATES		(800) 496-8326 Fax (203) 933-0249
SEL-REX® Precious Metal Products	(Phone: 8AM-6PM, M-F, East Coast time) (Fax: 24 hours, 7 days)	(800) 560-7214 Fax (203) 932-8688
CANADA	Mississauga Ontario Pointe Claire, Quebec	(800) 387-3766; (905) 507-9949 Fax (905) 507-9943 (514) 426-1451 Fax (514) 426-1453
MEXICO	Mexico, DF	(011-52-5) 587-1700 Fax (011-52-5) 567-6326

® Registered Trademark of Enthone Inc. ™ Trademark of Enthone Inc.  
[Enthone-OMI (Canada) Inc. is the registered user in Canada under license from Enthone Inc.]

