

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003  
 DateRun: 08/12/2003  
 Experimenters: Jason Marshall  
 ClientType: Optical Manufacturer  
 ProjectNumber: Project #1  
 Substrates: Plastic  
 PartType: Part  
 Contaminants: Coatings  
 Cleaning Methods: Ultrasonics  
 Analytical Methods: Photography, Visual

Purpose: To evaluate successful cleaners from previous trials on supplied parts using ultrasonic energy

Experimental Procedure: The four aqueous based products were diluted to 5% using DI water in 1500 ml beakers. Three semi-aqueous products and the client supplied product were used at full strength in 600 ml beakers. The solutions were heated to 130 F in a Crest Ultrasonic tank filled with tap water. Each solution was degassed for 5 minutes. One supplied machine part was cleaned in each of the four products for 15 minutes using 40 kHz ultrasonic energy. The part was then rinsed in DI water at room temperature for 20 seconds and dried using air blow off at room temperature for 30 seconds. Parts were visually inspected for cleanliness. Following the machine parts, one lens was cleaned in the same process.

Contaminant: PPG Industries, Inc. Hi-Gard 1035 coating (71-23-8, 67-56-1, 64-17-3)

Results: After cleaning, visually inspection revealed little change for all four aqueous cleaners. Kyzen and Florida Chemical caused a change in the appearance of the lens. The pot ash caused some of the coating to be removed.

Summary:

<b>Substrates:</b>		Plastic				
<b>Contaminants:</b>		Coatings				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:	
PCI of America	Hurrisafe 9575	5		<input type="checkbox"/>		
Heatbath Corporation	MultiKleen LX 1573	5		<input type="checkbox"/>		
Buckeye International	Shopmaster	5		<input type="checkbox"/>		
US Polychem Corporation	Polyspray Jet 790 XS	5		<input type="checkbox"/>		
Finger Lakes Chemical	Safer Stuff	100		<input type="checkbox"/>		
Kyzen Corporation	Ionox HC 2	100		<input checked="" type="checkbox"/>	Possible removal	
Florida Chemical Company	Citrus Burst 7	100		<input checked="" type="checkbox"/>	possible coating removal	
Univar USA Inc	Pot Ash Liquid	12		<input checked="" type="checkbox"/>		

Conclusion: Four lenses and four machine parts have been sent back to client for inspection.