

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002  
 DateRun: 06/04/2002  
 Experimenters: Jason Marshall  
 ClientType: Optical Manufacturer  
 ProjectNumber: Project #1  
 Substrates: Plastic  
 PartType: Part  
 Contaminants: Inks  
 Cleaning Methods: Manual Wipe  
 Analytical Methods: Visual, Wipe  
 Purpose: To evaluate successful cleaners on supplied parts.

**Experimental Procedure:** The four products from the previous trial were used at full strength and heated to 130 F on a hot plate in 400 ml beakers. Using a soft paper towel soaked in each heated solution, lenses were wiped until the ink was removed. The time required to clean was recorded. A second evaluation with the products involved soaking the lenses in the solution for 5 minutes, making observations through out the soak. At the end, the lenses was wiped for a maximum of 10 seconds. The lenses were then rinsed in a tap water rinse at 120 F for 10 seconds and wiped dry.

**Results:** All products were able to remove all of the ink in less than 1 minute during the manual wipe cleaning. Loctite 7360 was the fastest, removing the ink within 17 seconds. None of the products dissolved the ink from the lenses within the 5 minute soak cleaning. The following table lists the observations made during each cleaning process.

Wipe Observations	Soak Observations	W rank +	S rank / 2	=	Overall Rank
24 seconds	No dissolving, wipe at end was easy	3	2	=	2.5
19 seconds	Wipe did not remove all the ink	2	4	=	3
17 seconds	Possible dissolving, easily wiped	1	1	=	1
48 seconds	Small amount of ink left	4	3	=	3.5

**Summary:**

<b>Substrates:</b>		Plastic			
<b>Contaminants:</b>		Inks			
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Bio Chem Systems	Bio T Max	100	3.00	<input checked="" type="checkbox"/>	Wipe Rank
National Diagnostic	Opti Clear	100	2.00	<input checked="" type="checkbox"/>	Wipe Rank
Loctite Corporation	7360	100	1.00	<input checked="" type="checkbox"/>	Wipe Rank
Twin Rivers Technologies	Methyl Ester 1618	100	4.00	<input type="checkbox"/>	Wipe Rank
Bio Chem Systems	Bio T Max	100	2.00	<input checked="" type="checkbox"/>	Soak Rank
National Diagnostic	Opti Clear	100	4.00	<input type="checkbox"/>	Soak Rank
Loctite Corporation	7360	100	1.00	<input checked="" type="checkbox"/>	Soak Rank
Twin Rivers Technologies	Methyl Ester 1618	100	3.00	<input checked="" type="checkbox"/>	Soak Rank

**Conclusion:** A follow up test will be run on the top two products, Loctite 7360 and Bio T Max, to determine how long to soak the lenses to remove the ink with no wiping.