

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2019  
 DateRun: 03/28/2019  
 Experimenters: Justin Rainaud, Lily Green, Aditi Patel, Aaron Wilson  
 ClientType:  
 ProjectNumber: Project #1  
 Substrates: Glass/Quartz, Chrome  
 PartType: Coupon  
 Contaminants: Films, Soaps  
 Cleaning Methods: Manual Wipe  
 Analytical Methods: Gravimetric, Visual  
 Purpose: To evaluate the effectiveness of a glass cleaner on the removal of SSL Soil 2 Glass from several substrates.

Experimental Procedure: Preweighed Glass, Chrome, coupons were coated with SSL Soil 2 (Glass soap scum: Water 51.5%, Hair gel 25.6%, Toothpaste 10.4%, Shaving cream 5.3%, Hair spray 3.7% and Spray deodorant 3.5%) using a handheld swab and allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added. Three coupons were placed into a Gardner Straight Line Washability unit. A Wypall L60 reinforced wipe was attached to the cleaning sled and soaked with 1 spray of cleaning solutions. 1 scoop of salt was added to water to make E-Mop cleaner (1 scoop of salt = 3.0516 g). Each coupon was sprayed 1 time with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 5 cycles (~10 seconds). Coupons were left to dry overnight before final weights and efficiencies were recorded.

Results:

Cleaner	Substrate	Initial Weight of Cont.	Final Weight of Cont.	% Cont. Removed	Average % Removed	Overall % Removed
Thane Direct E-Mop	Glass	37.7009	0.0015	97.65	97.73	97.815
		37.7016	0.0017	98.38		
		37.6323	0.0011	97.17		
	Chrome	63.3620	0.0001	99.85	97.90	
		64.2003	0.0024	96.13		
		64.5190	0.0018	97.73		
Windex	Glass	37.5465	0.0013	98.01	98.04	96.67
		37.7371	0.0015	97.63		
		37.4404	0.0010	98.48		
	Chrome	63.7205	0.0039	94.14	95.33	
		63.0794	0.0024	96.05		
		63.9050	0.0027	95.81		

Streaking 1= no visible streaking, 7= high streaking. Filming 1 = no visible filming, 7= high filming.

Cleaner	Substrate	Tester	Filming Score			Average Filming Score	Total Avg Filming Score	Streaking Score			Average Streaking Score	Total Avg Streaking Score		
			1	2	3			4	5	6			7	
E-mop	A	1	2	1	3	2	2.5	4	1	1	2	3.2		
			2	2	3	3		2.6	5	5	3		4.3	
			3	1	4	4		3	3.5	3.5	3		3.3	
	B	1	2.5	4	4	3.5	4.8	6	6	5	5.7	6.2		
				2	5	6		5	5.3	6	7		5.5	6.2
				3	4	6		5	5.5	6.5	7		7	6.8
Windex	A	1	3.5	4	3	3.5	3.1	2	2	2	2	2		
			2	2	2	1		1.6	1.5	3	2		2.2	
			3	3	5	5		4.3	1.5	2	2		1.8	
	B	1	6	5	6	5.6	5.3	6	2	5	4.3	5.4		
				2	5	6		6	5.6	6	6		7	6.3
				3	5.5	5		4	4.8	6	5		6	5.7

Summary:

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<b>Substrates:</b>	Glass/Quartz, Chrome				
<b>Contaminants:</b>	Films, Soaps				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Thane Direct Inc	E Mop	100	97.82	<input checked="" type="checkbox"/>	
SC Johnson & Son Inc	Windex Glass & More Cleaner (Spray)	100	96.67	<input checked="" type="checkbox"/>	

**Conclusion:**

E-mop and Windex were effective at removing SSL Soil 2 Glass from glass and Chrome surfaces. The overall average removal rate was 97.815% and 96.67%