CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2016
DateRun:	10/16/2016
Experimenters:	John Truong, Sabrina Apel
ClientType:	Cleaning Equipment Mfr
ProjectNumber:	Project #1
Substrates:	Glass/Quartz, Chrome
PartType:	Coupon
Contaminants:	Films, Soaps
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric, Visual
Purpose:	To evaluate three supplied cleaning products for glass soil removal from glass and chrome surfaces.
Experimental Procedure:	Three cleaners (Catholyte NaOH, Anolyte Hypochlorous, and Windex) were received “Ready to Use” (RTU). Pre-weighed coupons (three glass, three chrome) were coated with one half of a gram of glass soil, at room temperature, using a hand held swab. The contaminated coupons were air dried for 24 hours at room temperature and weighed again to determine the amount of soil added. Three coupons of each substrate were placed in the SLW unit and a KC Wypal reinforced paper towel was attached to the cleaning sled and treated with two sprays of cleaning solution. Each coupon was sprayed twice with the same cleaning solution. The cleaning unit was run for 5 cycles (equivalent of 10 seconds of cleaning). Coupons were dried and final weights were recorded. Efficiencies were calculated and recorded.
Results:	Each product was evaluated for visual and gravimetric removal of glass soil. The three supplied products removed over 89% of the glass soil on each substrate using the manual wipe unit. After cleaning, glass substrates contained streaking and filming from the glass soil. The Catholyte solution had the best ranking for both streaking and filming when compared to Windex.

Substrate				
Cleaner	Initial wt	Final wt	% Removed	% Average
Glass				
Catholyte				
	0.0509	0.0027	94.7	95.33
	0.0522	0.0031	94.06	
	0.0471	0.0013	97.24	
Anolyte				
	0.0511	0.0025	95.11	92.89
	0.0578	0.0022	96.19	
	0.0578	0.0073	87.37	
Windex				
	0.05	0.0041	91.8	91.81
	0.0562	0.0053	90.57	
	0.0518	0.0036	93.05	
Chrome				
Catholyte				
	0.0567	0.0062	89.07	89.75
	0.0541	0.0045	91.68	
	0.0531	0.0061	88.51	
Anolyte				
	0.0509	0.0036	92.93	92.92
	0.0606	0.0048	92.08	
	0.0591	0.0037	93.74	
Windex	0.0626	0.0038	93.93	94.74
	0.0568	0.0027	95.25	
	0.0747	0.0037	95.05	

Visual

Cleaner	Streaking	Film

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	Tester 1	Tester 2	Tester 3	Ave	Tester 1	Tester 2	Tester 3	Ave
Glass								
Catholyte	3	3	2.5	2.17	1.5	1	3	1.89
	2.5	3	2	3	2	3		
	1.5	1	1	1.5	1	1		
Anolyte	4	2	3.5	2.28	3.5	2	2.5	2.72
	3	2	1.5	2	1	2		
	1.5	1	2	4.5	3	4		
Windex	4.5	4	4	4	3.5	2	3.5	3.28
	6	3	4	5	4	4		
	4	3	3.5	3	2	2.5		

Summary:

Substrates:	Glass/Quartz, Chrome				
Contaminants:	Films, Soaps				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
SC Johnson & Son Inc	Windex Glass & More Cleaner (Spray)	100	92.38	☑	Streak 4, Film 3.3
Annihilare	Free (Catholyte)	100	92.54	☑	Streak 2.2, Film 1.9
Annihilare	Annihilyte General Purpose Cleaner	100	92.91	☑	Streak 2.3, Film 2.7

Conclusion:

Catholyte NaOH, Anolyte Hypochlorous, and Windex efficiently removed Glass Soil on glass and chrome using the Manual SLW Unit. The Catholyte solution had the least amount of streaking and filming.