CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 0

DateRun: 12/31/1969

Experimenters: Loc Nguyen

ClientType: Cleaner Manufacturer

ProjectNumber: Project #2

Substrates: Glass/Quartz, Chrome

PartType: Coupon

Contaminants: Films, Soaps

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate supplied products for glass cleaning using manual cleaning

Experimental Procedure: Supplied products were diluted with room temperature water to the requested dilution. Preweighed Glass; Chrome; Mirror 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 (SLW) unit. A Wypall L20 reinforced wipe was attached to the cleaning sled and soaked with 1 spray of cleaning solution. Each coupon was sprayed 1-3 times 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). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded and efficiencies recorded. Visual observations were made on the coupons for spotting and filming following the general guidelines set forth in the CSPA DCC 09A. Filming is best recognized as "haziness" or overall "milkiness", while streaking is best identified as dried droplets or "spotting", usually found strung together into thin white lines. Each coupon was evaluated separately for filming and streaking, (i.e., product residues without added soil), according to a scale of "1" to "7" where;

Filming Streaking
1 = high filming 1 = high streaking (poor performance)
7 = no visible filming 7 = no visible streaking (excellent performance)

Chemistries Evaluated: WC-3, Windex

Results:

Cleaner	Initial wt	Final wt	% Removed
WCN 3 Glass			
	0.1236	0.0008	99.35
	0.1377	0.0027	98.04
	0.1368	0.0058	95.76
WCN 3 Chrome			
	0.1268	0.0227	82.1
	0.147	0.0273	81.43
	0.1431	0.0189	86.79
WCN 3 Mirror			
	0.1346	0.0024	98.22
	0.1304	0.0061	95.32
	0.1435	0.0063	95.61
Windex Glass			
	0.1261	0.0488	61.3
	0.132	0.0331	74.92
	0.1246	0.0496	60.19
Windex Chrome			
	0.1288	0.0027	97.9
	0.1188	0.0075	93.69
	0.1216	0.0039	96.79
Windex Mirror			
	0.1305	0.0021	98.39
	0.1251	0.0032	97.44
	0.1317	0.0062	95.29

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Visual Analysis

Cleaner	Coupon	F	S	F	S	F	S	Average F	Average S
WCN Glass	15	2	4	3.5	4	4	4	3.7	4.0
WCN Glass	8	1.5	2	3	4.5	3	5	2.5	3.8
WCN Glass	22	1.5	1.5	3.5	4.5	4	4	3.0	3.3
WCN Mirror	4	1	3	3.5	4	4	2	2.8	3.0
WCN Mirror	21	1	3.5	4	4	4	4	3.0	3.8
WCN Mirror	16	1	3	4	4.5	4	4	3.0	3.8
Windex Glass	34	4	2	4	4	1	5	3.0	3.7
Windex Glass	41	4	3	4	4	2	5	3.3	4.0
Windex Glass	45	3	3	3	3.5	2	5	2.7	3.8
Windex Mirror	114	3	3	2	2	2	5	2.3	3.3
Windex Mirror	2	4	4	2.5	2	2	5	2.8	3.7
Windex Mirror	4	3.5	4	3	1.5	4	4	3.5	3.2

Summary:

Substrates:	Glass/Quartz, Chrome				
Contaminants:	Films, Soaps				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
ProNatural Brands LLC	WC 3	100	92.32	☑	
SC Johnson & Son Inc	Windex Glass & More Cleaner (Spray)	100	81.83	☐	

Conclusion:

Each of the cleaners exhibited the similar levels of soil removal for each surface with the WCN 3 removing more than Windex. Based on the filming and streaking table, we can see that Windex and WC3 were nearly identical.