CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2021
DateRun:	02/10/2021
Experimenters:	Nicole Kebler
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Glass/Quartz, Chrome
PartType:	Coupon
Contaminants:	Glass
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric, Visual
Purpose:	To test Free & Clear Glass cleaner compared to Mrs.Meyers for the removal of glass soil on Glass and Chrome.
Experimental Procedure:	Three coupons for each substrate for each cleaner were weighed for initial weights. About 0.15-0.2 g of Glass soil that was made previously was put onto the coupons and was left to dry overnight (24-hour dry time). The following day, dirty weights were taken and recorded. Three coupons of the same substrate were placed in the SLW Machine; there was 3 sprays per Wypall (one Wypall per substrate, per cleaner) and the SLW Machine was run for 20 cycles (30 seconds of cleaning). The coupons were taken out and left to dry for another 24 hours. After the 24 hours, they were weighed again for final weights. Streaking and Filming scores were then recorded. During the cleaning process, one glass coupon from Mrs. Meyers broke during the SLW Machine wiping. This coupon was taken out and the cleaning average was taken from the remaining two coupons.

Cleaners used:

1. Mrs. Meyers RTU
2. Free & Clear Glass RTU

Substrates Used:

A. Glass

B. Chrome

Results: Free & Clear performed better on glass than Mrs. Meyers did and had an average of about 93% removal compared to Mrs. Meyers at 84% removal. However, it only removed an average of 67% on Chrome substrate whereas Mrs. Meyers cleaned about 84%. Free & Clear was effective for the removal of glass soil on glass but not on chrome, noticeable amounts of soil were left on the chrome coupons, but the glass ones appeared fully clean. Mrs. Meyers coupons had some soil left on the sides of the coupon but were clean throughout the middle, it was almost fully effective but would have needed more wiping to remove all the soil.

Cleaner	Substrate	Initial wt. of cont.	Final wt. of cont.	%cont. removal	Average
1	A	0.1795	0.0308	82.84	84.13
		0.1578	0.0230	85.42	
	B	0.1747	0.0414	76.30	83.89
		0.1843	0.0224	87.85	
		0.1724	0.0215	87.53	
2	A	0.1552	0.0169	89.11	92.61
		0.1449	0.0080	94.48	
		0.1670	0.0096	94.25	
	B	0.1918	0.0926	51.72	66.53
		0.1970	0.0453	77.01	
		0.2155	0.0628	70.86	

As for filming and streaking scores, there was minimal filming on all coupons from both cleaners. There however was a lot of streaking that was left on the glass substrates from both cleaners. The streaking was only noticeable on the chrome substrates when looked at very closely, but the glass was noticeable from afar. The N/A indicates the broken coupon. Scoring for Filming ranges from 7 to 1, 1 being no visible filming to 7 having high filming. Similarly streaking ranges from 7 to 1 with 1 being no visible streaking to 7 having high streaking.

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Cleaner	Substrate	Filming	Streaking
1	A	2	6.5
		N/A	N/A
		1	6
	B	2	2
		1	2
		1	1
2	A	1	6
		1	5.5
		1	6
	B	1	3
		2	2
		1	3

Summary:

Substrates:	Glass/Quartz, Chrome
Contaminants:	Glass

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Cleanyst	Cleanyst Free and Clear Glass Cleaner	RTU	0.00	☑	Free and Clear was effective for the removal of glass soil on glass substrate but was not effective for the removal of glass soil on chrome.
Mrs Myers Clean Day	Mrs Meyers Glass Cleaner	RTU	0.00	☐	Mrs.Meyers Glass cleaner was somewhat effective for the removal of glass soil on glass and chrome substrates but did not have over 90% removal for either.

Conclusion:

Free & Clear was effective for the removal of glass soil on glass at about 93% but not on chrome, it cleaned significantly less on chrome than the comparative product at 67%. Mrs.Meyers was somewhat effective for the removal of glass soil on both substrates, but averages remained around 85% and some soil was left on the sides of the coupons.