CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005

DateRun: 05/14/2005

Experimenters: Jason Marshall, Ephraim Massawe

ClientType: Lab

ProjectNumber: Project #1

Substrates: Glass/Quartz

PartType: Coupon

Contaminants: Dirt, Fingerprints, Films

Cleaning Methods: Manual Wipe

Analytical Methods: Visual

Purpose: Laboratory evaluations of alternative cleaning products

Experimental Procedure:

Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning.

Fourteen products, including water were selected to determine their performance on glass window cleaning. The products were used at the dilution ratios as recommended by their manufacturers. Two products were used full strength; two at 10%; and one product at 25% and another at 20%. All other remaining products were used at concentrations less than 10%. Water was used as a universal solvent for comparative purposes.

Two hundred mills of each product were placed in a spraying bottle. The bottle was adjusted to the spraying mode and directed to a portion of the glass window followed by manual cleaning using paper towels. Paper towels were changed as soon as they got dirty. This was repeated until the paper towels had no more dirt stains on them. The remaining volume of cleaner was measured and the volume used for cleaning the window was determined by difference.

Results:

All products showed tremendous performance (efficiencies were above 90%), some reaching 99%. For example, water performed equally well but a lot more energy had to be used for manual wiping.

Product	#Paper Towels	~Vol Used
Oasis 255	5	80
Gemtek SC More than Glass	4	50
Bi-O-Kleen Glass	5	105
Glass and Hard Surface	4	100
Stay Clean Colloidal	5	100
Super H2O2	~5	115
EZ Safe Solutions Cleaner	~5	90
VPW SC 1000	5	85
Rochester Glass	~5	98
101 Neutral (0.2%)	~5	105
101 Neutral (1.0%)	~5	115
H2Orange2 (0.8%)	~5	105
H2Orange2 (1.0%)	~5	90
Water	~7	125

Summary:

Substrates:	Glass/Quartz				
Contaminants:	Dirt, Fingerprints, Films				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
EcoLab	Oasis 255 Glass Cleaner	100	0.00	☑	
Gemtek Products	SC More Than Glass Cleaner	100	0.00	☑	
Bi-O-Kleen Industries	Bi-O-Kleen Glass Cleaner	10	0.00	☑	
The Clean Environment Co	Glass and Hard Surface Cleaner	25	0.00	☑	
1st Envirosafety Inc. - No Longer Exists	Stay Cleaner Colloidal Glass Cleaner - For Comparison Purposes Only	6.7	0.00	☑	

CLEANING LABORATORY EVALUATION SUMMARY

Cleanline Products	H2O2 Super Citrus Concentrate	0.4	0.00	☑	
Orison Marketing	EZ Safe Solutions Cleaner Concentrate	10	0.00	☑	
Orison Marketing	VPW SC 1000	20	0.00	☑	
Rochester Midland Corporation	EnviroCare Glass Cleaner	3	0.00	☑	
Next-Gen Supply Group	PC 101 Neutral and Glass Cleaner	0.2	0.00	☑	
Next-Gen Supply Group	PC 101 Neutral and Glass Cleaner	1	0.00	☑	
EnvirOx LLC	H2Orange2	0.8	0.00	☑	
EnvirOx LLC	H2Orange2	1	0.00	☑	
Water	Water	100	0.00	☐	

Conclusion: All alternatives performed well on the glass window with the exception of a few which showed marks of dirt that remained on the window.