CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2024
DateRun:	10/15/2024
Experimenters:	Amelia Wagner
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #2
Substrates:	Vinyl Composite Tiles, Painted metal
PartType:	Coupon
Contaminants:	DCC-17
Cleaning Methods:	Manual Wipe
Analytical Methods:	Colorimeter, Gravimetric
Purpose:	To test the effectiveness of Green Mountain Ammenities all purpose cleaner against other all purpose cleaners on the market.
Experimental Procedure:	Twenty four coupons per cleaner, three of each substrate per cleaner, were used. . The initial L value (measure of flurorescence) was taken with the colorimeter. The coupons were contaminated with DCC-17 Formulation using a handheld swab and dried overnight. The contaminated coupons had their dirty L values measured before placing three coupons per cleaner of the same substrate into a Gardner Straight Line Washability (SLW) unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled. The Wypal and each coupon were treated with three sprays and cleaned for 20 cycles (~30 seconds of cleaning). Clean coupons dried for 24 hours before final L values were taken in order to assess the amount of staining left behind by the soil. The L values from the colorimeter represent the difference in lightness (higher value) and darkness (lower value). Percent detergency demonstrates the amount of restoration to the original that has occurred after the cleaning test has been performed. A higher average percent detergency indicates that the cleaner has been effective and has restored the dirty substrate and cleaned it so that it now is much closer to how it originally was measured. Data recorded from the readings can be calculated as percent detergency in the following equation to determine the cleaning efficacy of each formulation: *% DET = L(cleaned) - L(soiled) / L(unsoiled) - L(soiled) X 100*

Results:

Cleaner	Coupon Type	% DET	% AVG	% Overall
Ecolab Degreaser	VCT	86%	88%	87%
		92%		
		87%		
	Painted Metal	77%	85%	
		92%		
		87%		
Ecolab Citrus	VCT	79%	79%	88%
		79%		
		78%		
	Painted Metal	99%	96%	
		97%		
		93%		
GMA	VCT	90%	95%	97%
		95%		
		100%		
	Painted Metal	98%	99%	
		99%		
		99%		
Zep Purple	VCT	73%	79%	86%
		75%		
		90%		
	Painted Metal	97%	93%	
		94%		
		89%		

Summary:

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Substrates:	Vinyl Composite Tiles, Painted metal				
Contaminants:	DCC-17				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
EcoLab	Ecolab Industrial Degreaser	RTU	87.00	☑	
Green Mountain Amenities	GMA d-limonene	RTU	97.00	☑	
EcoLab	Ecolab Citrus	RTU	88.00	☐	
ZEP Manufacturing Company	Zep Purple	RTU	86.00	☑	

Conclusion: The data gathered from gravimetric analysis cannot be used to draw any conclusions. Based on the data gathered from the colorometer analysis and visual observations, it can be concluded that the GMA all purpose cleaner performed the best in removing DCC17 soil form both substrates.