CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2009
DateRun:	06/03/2009
Experimenters:	Jason Marshall, Junhee Cho, Timothy Weil
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Plastic
PartType:	Coupon
Contaminants:	Dirt
Cleaning Methods:	Manual Wipe
Analytical Methods:	Visual, Gloss-Color Meter
Purpose:	To evaluate dust mop/cloth treatment aerosol products for dirt removal
Experimental Procedure:	Vinyl composite tiles (VCT) were coated with The Clean Environment Co Cycle Finish C-12 (zinc free water base floor finish). Two coats were applied to the VCT with a 30 minutes of drying in-between applications. The coated VCT were weighed and gloss-color readings were made with Spectro Guide. The VCT coupons were coated with an AATCC Synthetic carpet soil and water mixture and dried using a Master Appliance Heat Gun. Dirty weights and gloss-color readings were taken. The aerosol cleaners were sprayed onto a gauze pad and wiped across the surface of the VCT coupons. Final readings were taken and compared to the values obtained when wiping the surface with no cleaner. Visual observations were made on the condition of the coupons and the gauze pads to determine the qualitative removal rate of each product. A dry gauze pad will be used as a baseline.
Results:	Gravimetric analysis resulted in inconclusive results due to the low amount of soil able to be applied to the surfaces. Instead, visual ranking were used as the primary assessment methodology. A Spectro Guide color/gloss meter was used as well to assess cleanliness. The table below lists the gravimetric analysis.

Cleaner	Initial wt	Final wt	% Removed
A00811			
	0.0427	0.0475	-11.24
	0.0405	0.0444	-9.63
	0.0371	0.0386	-4.04
Spartan			
	0.0392	0.0398	-1.53
	1.0365	1.0403	-0.37
	0.0278	0.0297	-6.83
Claire			
	0.039	0.0392	-0.51
	0.0366	0.0385	-5.19
	0.038	0.0383	-0.79
Swiffer			
	0.0371	0.038	-2.43
	0.0366	0.039	-6.56
	0.0379	0.0386	-1.85
Dry			
	0.0387	0.0382	1.29
	0.0358	0.0357	0.28
	0.037	0.0365	1.35
A00810			
	-0.0016	-0.0342	-2037.5
	0.0143	0.0203	-41.96
	-0.0035	-0.027	-671.43

Visual rankings were made and based on soil loading and darkness of soil on gauze pad. The Amrep Misty product resulted in the best removal of the dust from the coated tile coupons.

Visual Observations

Product				Average

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	Observer 1	Observer 2	Observer 3	
A00811	4	4	4	4
A00810	1	1	1	1
Spartan	3	3	2	2.7
Claire	2	2	3	2.3
Swiffer	6	5	5	5.3
Dry	5	6	6	5.7

Visual Observations via Specrto Guide Color/gloss meter

Color scale (L*)

Product	Initial	Average	Dirty	Average	Final	Average
A00811	86.54	84.46	85.84			
	86.29	84.51	83.99			
	86.69	86.51	84.25	84.41	86.36	85.4
A00810	84.97	80.43	81.71			
	84.43	84.7	78.5	79.46	85.2	83.45
Spartan 86.54	83.49	85.59				
	85.15	84.85	86.04			
	86.44	86.04	84.5	84.28	85.82	85.82
Claire	85.92	82.79	84.19			
	86.5	84.39	85.41			
	86.4	86.27	84.1	83.76	84.71	84.77
Swiffer 86.82	84.21	83.23				
	86.33	84.14	84.52			
	86.21	86.45	81.56	83.3	83.99	83.91
Dry	85.72	82.23	81.79			
	85.71	77.8	84.07			
	86.22	85.88	78.98	79.67	81.55	82.47

The Spartan product resulted in the surface color returning closest to the original level followed by the two Amrep product lines.

Summary:

Substrates:	Plastic				
Contaminants:	Dirt				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Amrep Inc	Aspire Dust Mop Treatment A00811 Aerosol	100	0.00	☑	Rank = 3
Amrep Inc	Misty Dust Mop Treatment A00810 Aerosol	100	0.00	☑	Rank = 2
Spartan Chemical Company	Dust Mop-Dust Cloth Treatment Aerosol	100	0.00	☑	Rank = 1
Claire Manufacturing	Dust Up Floor Dressing & Dust Mop Treatment Aerosol	100	0.00	☑	Rank = 4
Procter & Gamble	Swiffer Dust & Shine	100	0.00	☑	Rank = 5

Conclusion:

The Aspire product was the fourth best for dust removal based on visual observations and second best using the grey scale measurements.