CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2005
DateRun:	01/17/2005
Experimenters:	Ephraim Massawe
ClientType:	General
ProjectNumber:	Project #1
Substrates:	Plastic
PartType:	Coupon
Contaminants:	Waxes
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric, Visual
Purpose:	To evaluate bio-based floor strippers on plastic composite tiles
Experimental Procedure:	Three products were used at 100% v/v concentration of selected bio-based cleaners. Nine pre-weighed ceramic tiles were coated with Johnson Wax Professional Show Place floor finish (40861-29-8, 78-51-3, 34590-94-8, 111-90-0) using a hand held swab. The finish was dried using a hand held heat gun for two minutes at ~300 F. Once the finish/coupon had cooled, three more coats were applied following the same procedure. Coupons were reweighed to determine the amount of finish that was applied. The coupons were sprayed with a cleaning product. The formulation was allowed to sit on the finish surface for 10 minutes. Three coated coupons were firmly held on an abrasive machine for manual wiping Abrasive pad (QEP Grout Clean Up Kit Coarse) was held firmly on the abrasive machine in order to imitate the working properties of the floor stripping machine. The cleaning lasted for 5 minutes at an interval of 1 minute with spraying of the cleaning agent on the pad as well as on the tiles in between. At the end
Results:	The table below lists the amount of finish applied, remaining and the percent effectiveness for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed	Average
Bio-T-Max	0.5572	0.4142	25.66	
	0.5048	0.358	29.08	26.50%
	0.7883	0.5939	24.66	
Botanical Gold	0.5978	0.112	81.26	
	0.5741	0.1139	80.16	86.70%
	0.6138	0.0088	98.56	
SC-Actisolv	0.4676	0.3485	25.47	
	0.7475	0.6475	13.38	25.70%
	0.9159	0.5658	38.22	

Qualitative Assessment of the cleanness:

Cleaner		Observer 1	Observer 2	Overall Efficiency
Bio-T-Max	Coupon 1	25	35	
	Coupon 2	25	35	28
	Coupon 3	15	35	
Botanical Gold	Coupon 1	90	80	
	Coupon 2	90	80	91
	Coupon 3	98	95	
SC-Actisolv	Coupon 1	20	35	
	Coupon 2	15	20	24
	Coupon 3	20	35	

Summary:

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Contaminants:	Waxes				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Bio Chem Systems	Bio T Max	100	26.50	☐	
PureTech International	Botanical Gold	100	86.70	☑	
Gemtek Products	SC Actisolv Safety Solvent	100	25.70	☐	

Conclusion: The botanical garden seems to have worked effectively well in this experiment with the removal efficiency of about 87%. From the qualitative assessment the botanical garden cleaner seems to have performed better (average removal efficiency of 91%) than the other bio-based cleaners (28% and 24% for Bio-T-Max and SC-Actisolv, respectively).