CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2005
DateRun:	01/12/2005
Experimenters:	Jason Marshall, Ephraim Massawe
ClientType:	General
ProjectNumber:	Project #1
Substrates:	Ceramics
PartType:	Coupon
Contaminants:	Waxes
Cleaning Methods:	Mechanical Agitation
Analytical Methods:	Black light, Gravimetric
Purpose:	To evaluate bio-based floor strippers on ceramic tiles.
Experimental Procedure:	Three products were used at 100% v/v concentration. Nine pre-weighed plastic composite 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 against a rotating abrasive pad (175 rpm) which was purposely designed 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 (175 * 5 revolutions). At the end of the cleaning, the coupons were wiped once to remove any cleaner or dirt and then they were left to dry for about 12 hours. Final weights were recorded and efficiencies were calculated. Additionally, what was done was to evaluate the coupons qualitatively for cleanness. A UV-light source to examine the coupons was used. Two examiners were asked to evaluate the cleanness in accordance with their own perception and judgment.
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
Bio-T-Max	0.2988	0.2878	3.68
	0.3018	0.1919	36.41
	0.2951	0.2566	13.05
Botanical Gold	0.2544	0.0626	75.39
	0.2488	0.1257	49.47
	0.3807	0.1871	50.85
SC-Actisolv	0.3158	0.6886	-118.05
	0.339	0.2422	28.55
	0.323	0.2348	27.31

Qualitative Assessment of the cleanness:

Cleaner		Observer 1	Observer 2	Overall Efficiency
Bio-T-Max				
	Coupon 1	40	48	
	Coupon 2	70	65	48%
	Coupon 3	17	45	
Botanical Gold				
	Coupon 1	97	88	
	Coupon 2	97	85	86%
	Coupon 3	78	70	

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SC-Actisolv				
	Coupon 1	50	50	
	Coupon 2	50	50	49%
	Coupon 3	45	50	

Summary:

Substrates:	Ceramics				
Contaminants:	Waxes				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Bio Chem Systems	Bio T Max	100	50.00	☐	Qualitative assessment
PureTech International	Botanical Gold	100	86.00	☑	Qualitative assessment
Gemtek Products	SC Actisolv Safety Solvent	100	49.00	☐	Qualitative assessment

Conclusion:

Most coupons seemed to have gained weight as a result of absorbing the cleaners. The results here are therefore not conclusive. Qualitative assessment showed that Botanical gold was more effective in removing about 86% of the dirt.