CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 10/06/2004

Experimenters: Jason Marshall, Ephraim Massawe

ClientType: General

ProjectNumber: Project #1

Substrates: Plastic

PartType: Coupon

Contaminants: Coatings

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate biobased floor strippers.

Experimental Procedure: Four products were selected from the lab's inventory of biobased products. These products were specified by vendor information as being designed for floor stripping. The client's current product was included for comparative purposes. Two of the products were diluted to 10% as suggested by the manufacturer. Two others were used at full strength. The current product was used at a 25% dilution.

Fifteen preweighed 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.

Three coated coupons were placed in a BYK Gardner abrasion tester used to apply uniform manually cleaning. The coupons were sprayed with a cleaning product. The formulation was allowed to sit on the finish surface for 5 minutes. A cotton rag was placed on the cleaning sled and sprayed with the same cleaning product as the coupons. The cleaning lasted for 30 cycles (50 seconds). At the end of the cleaning, the coupons were wiped once to remove any cleaner residue. Final weights were recorded and efficiencies were calculated.

Results: Only one alternative product, Solsafe 245, performed similarly to the current product under these conditions. The other three products removed only a small amount of the floor finish. The table lists the amount of finish applied, remaining and the percent effectiveness for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Johnson Wax	0.1188	0.0597	49.75
	0.1189	0.0232	80.49
	0.1173	0.0254	78.35
Eco Natural Flr Stripper	0.1190	0.1163	2.27
	0.1340	0.1309	2.31
	0.1257	0.1231	2.07
SC-EZ Solv	0.1450	0.0909	37.31
	0.1247	0.1200	3.77
	0.1541	0.1308	15.12
SC-Supersolve	0.1335	0.1218	8.76
	0.1210	0.1060	12.40
	0.1223	0.1097	10.30
SolSafe 245	0.1272	0.0731	42.53
	0.1173	0.0781	33.42
	0.1068	0.0272	74.53

Summary:

Substrates:	Plastic				
Contaminants:	Coatings				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Johnson Wax	Pro Strip	25	69.53	☑	
Orison Marketing	Eco Natural Floor Stripper	10	2.22	☐	
Gemtek Products	SC Supersolve Safety Solvent	10	18.75	☐	
Gemtek Products	SC EZ Solv Safety Solvent	100	10.49		

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Bio Chem Systems	Solsafe 245	100	50.16	☑	

Conclusion: The alternative products will be retested under several different conditions (time, temp) in order to determine whether or not they should be considered a viable alternative.