CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005

DateRun: 01/12/2005

Experimenters: Jason Marshall, Ephraim Massawe

ClientType: General

ProjectNumber: Project #1

Substrates: Plastic

PartType: Coupon

Contaminants: Waxes

Cleaning Methods: Mechanical Agitation

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate bio-based floor strippers.

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 1 minutes (175/2 revolutions). At the end of the cleaning, the coupons were wiped once to remove any cleaner and left to dry for about 1 hour. Final weights were recorded and efficiencies were calculated.

Results: The three products removed only a small amount of the floor finish. The table below lists the amount of finish applied, remaining and the percent effectiveness for each coupon cleaned. Some of the plastic coupons resulted in cleaning efficiencies over 100%. These coupons had noticeable damage caused by the scouring action.

Cleaner	Initial wt	Final wt	% Removed
Bio-T-Max	0.1356	0.0629	53.61
	0.1357	-0.0198	114.59
	0.1359	-0.1671	222.95
Botanical Gold	0.1436	0.0815	43.24
	0.1469	0.1237	15.79
	0.1176	0.0920	21.76
SC-Actisolv	0.1349	0.0098	92.73
	0.1490	-0.0400	127.79
	0.1186	0.0762	35.75

Summary:

Substrates:	Plastic
Contaminants:	Waxes

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Bio Chem Systems	Bio T Max	100	0.00	☑	Visual analysis revealed that the floor coating was being removed.
PureTech International	Botanical Gold	100	0.00	☐	
Gemtek Products	SC Actisolv Safety Solvent	100	0.00	☑	Visual analysis revealed that the floor coating was being removed.

Conclusion: These results are not conclusive, especially for the Bio-T-Max or SC-Actisolv because it seems that the abrasive pads assisted in the removal of most of the contaminants when these products were used on the substrate. However, the abrasive action may have removed the contaminants and also parts of the substrate. These experiments will be repeated using ceramic tiles.