

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2005																																		
DateRun:	11/15/2005																																		
Experimenters:	Jason Marshall																																		
ClientType:	Cleaner Manufacturer																																		
ProjectNumber:	Project #1																																		
Substrates:	Ceramics, Plastic, Steel																																		
PartType:	Coupon																																		
Contaminants:	Hucker's Soil																																		
Cleaning Methods:	Manual Wipe																																		
Analytical Methods:	Gravimetric																																		
Purpose:	To evaluate supplied product on three substrates for Hucker's Soil removal.																																		
Experimental Procedure:	<p>The supplied cleaning product was diluted with DI water to vendor recommended concentration for all purpose Cleaning (1.56%). Nine preweighed ceramic, nine plastic G-10 and nine painted steel coupons were coated with Hucker's Soil Formulation (Jif Creamy Peanut Butter 9.2%, Salted Butter 9.2%, Arrowhead Mills stone ground wheat flour 9.2%, Egg Yolk 9.2%, Evaporated milk 13.8%, Distilled water 45.8%, Printer's ink with boiled linseed oil 0.9%, Shaws saline solution 2.7%) using a hand held swab and allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added. Photographs were taken.</p> <p>Three coupons were placed into a Gardner Straight Line Washability unit. A Professional Painter's Rag was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The cleaning unit was run for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded, efficiencies were calculated and recorded.</p>																																		
Results:	<p>The product was successful in removing SSL Soil 3 - Hucker's Soil from ceramic, plastic and painted steel coupons. Table 1 lists the amount of soil applied and removed for each substrate and coupon.</p> <table border="1"> <thead> <tr> <th>Substrate</th> <th>Initial wt</th> <th>Final wt</th> <th>% Removal</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Ceramic</td> <td>0.3366</td> <td>0.0418</td> <td>87.58</td> </tr> <tr> <td>0.2221</td> <td>0.0408</td> <td>81.63</td> </tr> <tr> <td>0.7275</td> <td>0.2126</td> <td>70.78</td> </tr> <tr> <td rowspan="3">Plastic</td> <td>0.318</td> <td>0.0057</td> <td>98.21</td> </tr> <tr> <td>0.3031</td> <td>0.0077</td> <td>97.46</td> </tr> <tr> <td>0.5339</td> <td>0.0189</td> <td>96.46</td> </tr> <tr> <td rowspan="3">Steel</td> <td>0.4478</td> <td>0.0157</td> <td>96.49</td> </tr> <tr> <td>0.7983</td> <td>0.0138</td> <td>98.27</td> </tr> <tr> <td>0.417</td> <td>0.0162</td> <td>96.12</td> </tr> </tbody> </table>	Substrate	Initial wt	Final wt	% Removal	Ceramic	0.3366	0.0418	87.58	0.2221	0.0408	81.63	0.7275	0.2126	70.78	Plastic	0.318	0.0057	98.21	0.3031	0.0077	97.46	0.5339	0.0189	96.46	Steel	0.4478	0.0157	96.49	0.7983	0.0138	98.27	0.417	0.0162	96.12
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Conclusion:	The product was successful in removing at least 85% of the applied soil.																																		