CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2013
DateRun:	08/13/2013
Experimenters:	Jason Marshall, Junhee Cho
ClientType:	Cleaning Equipment Mfr
ProjectNumber:	Project #1
Substrates:	Stainless Steel
PartType:	Coupon
Contaminants:	Carbon Deposits, Greases, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate supplied product for grease removal from floor surfaces CSPA DCC 17 soil

Experimental Procedure:

The supplied product was tested using the CSPA DCC 17 - Greasy Soil Test Method for Evaluating Spray-and-Wipe Cleaners Used On Hard, Non-Glossy Surfaces standard. A few minor deviations from the standard were incorporated into the test conducted.
The Greasy Soil Test Method is a standard method that evaluates the cleaning performance of products intended for use on washable walls or other hard, non-glossy surfaces. This method provides instructions for soil application, cleaning and evaluation of spray-and-wipe cleaners under controlled cleaning conditions. This method can be used to assess product performance for cleaning a fabricated greasy soil blend applied to painted wallboard tiles. It is not inclusive of all soil or substrates typically encountered by a consumer while using these products.

Stainless steel coupons were substituted for masonite wallboard tiles. These tiles were soiled with a mixture of melted, oily soils containing a small amount of carbon black. The tiles were dried overnight at room temperature. A measured amount of spray-and-wipe cleaner is applied to a reinforced paper towel was used in place of the sponge. The soaked towels were used to scrub a portion of the soiled substrate using a straight-line washability apparatus. The tile was not rinsed after cleaning. Separate soiled coupons were cleaned with the other product (water) being evaluated instead of using the same soiled coupon as initial product. This was done to eliminate any possible cross contamination of the cleaning process. Three coupons were cleaned by each cleaning product being evaluated. Cleaning performance was measured by gravimetric analysis.

Soil Preparation
A mixture of three cooking oils/greases was made. A melted blend of 33% vegetable shortening, 33% lard, 33% vegetable oil and 1% carbon lampblack was made up fresh for the testing. Care was taken in the application of the soil onto the coupons so that light and heavy areas were avoided. Allow the soiled tiles to dry for 24 hours at room temperature.

Cleaning Test
The coupons were placed the tray of the SLW unnit such that the direction of the soiling is perpendicular to the direction of the towel. Products were applied to the coated surfaces using 1-2 sprays from manual spray pump and 1-2 sprays onto the reinforced Wypal X60 paper towel attached to the cleaning instrument. The cleaning was performed using Gardner Straightline washability unit and conducted for the prescribed 5 cycles (10 strokes).

Chemistries Evaluated: Sens Corp (17 C); Sens Corp (35 C); Water (17 C); Water (35 C)

Results:

Based on the gravimetric analysis, neither warm nor cold products yielded effective removal of the grease soil mixture. The warmer temperature produced lower soil removal which may have been due to the grease mixture melting and then smearing on the surface, reducing the effectiveness of the wipe action to remove the soil. The table lists the amount of soil added, the amount remaining and the calculated efficiency for each coupon and temperature.

Cleaner	Initial wt	Final wt	% Removed
Sens warm			
	0.1188	0.0677	43.01
	0.2667	0.0838	68.58
	0.3471	0.0608	82.48
Sens cold			
	0.4216	0.0387	90.82
	0.1439	0.0419	70.88
	0.2856	0.0398	86.06
Water warm			
	0.3462	0.0523	84.89
	0.1185	0.0414	65.06

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	0.4758	0.0592	87.56
Water cold			
	0.1331	0.0329	75.28
	0.2609	0.0328	87.43
	0.2792	0.0379	86.43

Summary:

Conclusion: