CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2014
DateRun:	11/13/2014
Experimenters:	Loc Nguyen, George Liang
ClientType:	Cleaning Equipment Mfr
ProjectNumber:	Project #1
Substrates:	Stainless Steel, Wood, Granite
PartType:	Coupon
Contaminants:	Oil, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate products for light oil removal.
Experimental Procedure:	Preweighed stainless steel, granite, and wood coupons were coated with Vegetable Oil.The contaminated coupons were weighed again to determine the amount of soil added. Three coupons were placed into a Gardner Straight Line Washability unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled and soaked with 1 spray of cleaning solution. Each coupon was sprayed once 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. Chemistries Evaluated: Force of Nature, Clorox Clean Up Cleaner & Bleach, Formula 409 All Purpose Cleaner Lemon Fresh Summary Substrates: Stainless Steel, Granite, Wood Contaminants: Vegetable Oil Force of Nature pH = 6.01 Concentration = 250 ppm

Results:

Cleaner	Initial wt	Final wt	% Removed
HealthierCleaning_LightOil_StainlessSteel_ForceOfNature			
	0.5700	0.0177	96.89
	0.4391	0.0132	96.99
	0.5379	0.0289	94.63
	0.7805	0.0443	94.32
	0.7281	0.0273	96.25
	0.3035	0.0156	94.86
	0.5210	0.0194	96.28
	0.4106	0.0230	94.40
	0.5131	0.0197	96.16
HealthierCleaning_LightOil_Granite_ForceOfNature			
	0.5801	0.0126	97.83
	0.5943	0.0112	98.12
	0.9396	0.0139	98.52
	1.3993	0.0064	99.54
	0.9557	0.0154	98.39
	0.7525	0.0057	99.24
	1.0428	0.0166	98.41
	0.6653	0.0207	96.89
	0.7624	0.0170	97.77
HealthierCleaning_LightOil_Wood_ForceOfNature			
	0.2854	0.1639	42.57
	0.6748	0.0320	95.26
	0.6821	0.0202	97.04

CLEANING LABORATORY EVALUATION SUMMARY

	0.7265	0.0329	95.47
	0.7143	0.0612	91.43
	0.4659	0.0069	98.52
	0.6209	0.0371	94.02
	0.6334	0.1935	69.45
	0.5435	0.0305	94.39
HealthierCleaning_LightOil_StainlessSteel_Clorox			
	0.5890	0.0085	98.56
	0.5734	0.0100	98.26
	0.6335	0.0164	97.41
	0.5425	0.0102	97.17
	0.5569	0.0115	98.12
	0.6245	0.0206	97.93
	0.4781	0.0115	96.70
	0.7673	0.0111	98.05
	0.5075	0.0159	97.59
HealthierCleaning_LightOil_Granite_Clorox			
	0.7951	0.0194	98.55
	0.8391	0.0189	96.87
	0.5991	0.0160	97.01
	0.6868	0.0092	97.56
	0.5778	0.0073	97.75
	0.5684	0.0058	97.33
	0.3997	0.0331	99.01
	0.6357	0.0315	98.66
	0.5250	0.0322	98.74
HealthierCleaning_LightOil_Wood_Clorox			
	0.5257	0.0313	98.98
	0.6675	0.0313	91.69
	0.4798	0.0240	91.72

Summary:

Substrates:	Stainless Steel, Wood, Granite
Contaminants:	Oil, Food

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Healthier Cleaning Innovations	Force of Nature	100	93.45	☑	
Clorox Company	Formula 409 All Purpose Cleaner	100	83.00	☑	

Conclusion: Force of Nature and Clorox exhibited similar levels of cleaning for the three substrates evaluated. Both were more consistent than the Formula 409 on the wood surface cleaning. When excluding the wood cleaning for the 409, all three products were comparable.