CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2017
DateRun:	05/08/2017
Experimenters:	George Liang
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #8
Substrates:	Aluminum, Stainless Steel
PartType:	Coupon
Contaminants:	Greases, Oil, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate supplied product for DCC-17 removal from stainless steel and aluminum surfaces following TURI's cleaning method.

Experimental Procedure:

The following experimental procedure is in accordance with TURI's cleaning standard operating procedure for kitchen soil removal.

Soiling Process:
A set of pre-weighed stainless steel and aluminum coupons were contaminated with 0.5 grams of DCC-17 soil using a handheld swab onto the center of the coupon's surfaces. DCC-17 was made with the following ingredients: Vegetable Shortening 33%, Lard 33%, Vegetable Oil 33%, and Carbon lampblack 1%. After all the stainless steel and aluminum coupons were contaminated with DCC-17 soil, the coupons were allowed to sit overnight then re-weighed to determine the amount of contaminant added.

Cleaning Process:
Three soiled substrates were placed into a Gardner Straight Line Washability unit. Two Wypall X60 reinforced wipe was attached to the cleaning sled and soaked with 1 spray of cleaning solutions. The cleaning solutions were diluted to the desired concentrations specified by the vendor and heated to a temperature of 110 oF. Each substrate was sprayed 1 time with the same cleaning solution. The solution was allowed to penetrate for 30 seconds and followed by cleaning in the SLW unit for 20 cycles (~33 seconds).

Efficacy Rating Process:
The substrates were left to dry at room temperature for an hour before weighing to determine the amount of contaminant removed.

Results:

The objective of the experiment is to compare the efficacy of the sampled cleaners: Vi-Jon Premium Pot & Pan with the Brady Premium Pot & Pan.

Comparative Analysis
Vi-Jon Premium Pot & Pan was observed to be as effective as the comparative cleaner, Brady Premium Pot & Pan, on cleaning stainless steel substrate coupons; with respective efficacy ratings of 87.86% and 86.08%.

In comparison between Vi-Jon Premium Pot & Pan with Brady Premium Pot & Pan the respective efficacy was observed to be 84.27% and 86.35%. Table pertaining to the amount of contaminant added and removed using a gravimetric scale by its respective cleaning agent to measure the efficacy of the cleaners.

Cleaner	Initial wt(g)	Final wt.(g)	% Removed
Brady Premium Pot & Pan Stainless Steel			
	0.4946	0.0814	83.54
	0.4977	0.0854	82.84
	0.5029	0.0410	91.85
Brady Premium Pot & Pan Aluminum			
	0.4877	0.0771	84.19
	0.4927	0.0816	83.44
	0.4984	0.0428	91.41
Vi-Jon Premium Pot & Pan Stainless Steel			
	0.4891	0.0715	85.38
	0.4877	0.0577	88.17
	0.4910	0.0490	90.02
Vi-Jon Premium Pot & Pan Aluminum			
	0.4878	0.0907	81.41
	0.4861	0.0816	83.21

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	0.4908	0.0580	88.18

Summary:

Substrates:	Aluminum, Stainless Steel				
Contaminants:	Greases, Oil, Food				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Brady Industries	Brady Premium Pot and Pan	0.2	86.22	☑	
Vi-Jon	Vi-Jon Premium Pot and Pan	0.2	86.07	☑	

Conclusion:

In conclusion, the cleaning agents are listed in the following order from the observed most effective to the least effective cleaners for DCC-17 soil removal without prior soak in cleaning solution: Brady Premium Pot & Pan, Vi-Jon Premium Pot & Pan.