CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2022

DateRun: 04/05/2022

Experimenters: Zoe Lawson, Tatyanna Moreland Junior

ClientType:

ProjectNumber: Project #4

Substrates: Painted metal

PartType: Coupon

Contaminants: Carbon Deposits, Greases, Dirt, Food

Cleaning Methods: Manual Wipe

Analytical Methods: Colorimeter, Gravimetric, Visual

Purpose: To evaluate the effectiveness of Pak-it Neutral Floor Cleaner at two different concentrations.

Experimental Procedure: 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 can be used to assess product performance for cleaning a fabricated greasy soil blend applied to painted tile and metal. Six stainless steel painted coupons were used as floor substrates. These coupons were initially painted with two coats of white paint and allowed to dry for 24 hours. The weights of were taken the next day along with the reflectance values. The coupons were then soiled with a melt blend of 33% vegetable shortening, 33% lard, 33% vegetable oil and 1% carbon lampblack. Care was taken in the application of the soil onto the coupons so that light and heavy areas were avoided. The soiled coupons were left dry overnight at room temperature. The soiled reflectance values and weights of the soiled coupons were taken the next day. The cleaning product was prepared at two separate concentrations. The first concentration consisted of 8 grams of the cleaning product in 2 gallons of water. The second concentration consisted of 15 grams of cleaning solution in 2 gallons of water. Two spray bottles were prepared for each concentration. Three coupons of the same substrate were then aligned into a Single Line Washing Unit (SLW) with a Wypall X60 attached to the cleaning sled. Each Wypall X60 cloth and coupon received 2 sprays of the solution.The Single Line Washing Unit (SLW) was then activated for 20 repetitions, simulating 20 manual wipes.The clean coupons were then allowed to dry overnight at room temperature before the final weights and reflectance values were recorded.

Cleaning data was calculated as percent detergency in the following equation:

% DET = R(cleaned) - R(soiled) / R(unsoiled) - R(soiled) X 100

Results: Gravimetric results:

Cleaner	Initial wt of cont.	Final wt of cont.	%Cont Removed	Average % Removal
Pak-it Neutral Floor Cleaner (8g/2gal)	0.7154	0.1306	0.8174	77.59
	0.5888	0.1147	0.8052	
	0.5607	0.1653	0.7052	
Pak-it Neutral Floor Cleaner (15g/2gal)	0.5657	0.0873	0.8457	87.86
	0.5534	0.0657	0.8813	
	0.6338	0.0577	0.9090	

Reflectance results:

Cleaner	Unsoiled	Soiled	Clean	% Detergency	Average %
Pak-it Neutral Floor Cleaner (8g/ 2gal)	89.66	23.68	81.09	87.01	79.32
	90.18	27.87	79.05	82.14	
	90.42	32.81	72.46	68.82	
Pak-it Neutral Floor Cleaner (15g/ 2gal)	90.29	10.10	89.75	99.33	99.17
	90.39	8.30	89.87	99.37	
	90.14	27.23	89.39	98.81	

Summary:

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Substrates:	Painted metal
Contaminants:	Carbon Deposits, Greases, Dirt, Food

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Pak It	Pak-it Neutral Floor Cleaner	8 grams in 2 gallons	77.59	☑	
Pak It	Pak-it Neutral Floor Cleaner	15 grams in 2 gallons	87.86	☑	

Conclusion: Overall Pak-it Neutral Floor Cleaner was more effective with a concentration of 15 grams in 2 gallons. The average % detergency results were highly effective for this concentration at 99.17% and the gravimetric results were also effective at an average of 87.86%. Pak-it Neutral Floor Cleaner at 8 grams in 2 gallons was slightly less effective and maintained similarity between average soil removal and average % detergency scores.