CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2016
DateRun:	01/06/2016
Experimenters:	Francisco Abreau, Alicia Melvin
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #7
Substrates:	Ceramics, Plastic, Steel
PartType:	Coupon
Contaminants:	Greases, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate three all-purpose cleaners supplied products for DCC-17 removal from various surfaces.
Experimental Procedure:	Three cleaners were supplied by Envirox for testing, Soap Scum, Soap Scum Conc. and Wall Glide Plus. Soap scum was provided ready to use. Recommended dilutions for Soap Scum Conc. (1:6.4) and Ecolab Wall Glide Plus (2oz/128) were made tap water at room temperature (68˚F). Nine pre-weighed coupons per cleaner (three Ceramic, three Plastic and three Painted steel) were coated with one gram of DCC-17 at room temperature using a handheld swab. The contaminated coupons were air dried for 24 hours at room temperature and weighed again to determine the amount of soil added the next day. Three coupons of each substrate were placed in the SLW equipment, and a KC Wypal reinforced paper towel was attached to the cleaning sled and soaked with two sprays of cleaning solution. Each coupon was sprayed twice with the same cleaning solution. The cleaning unit was run for 20 cycles (30 sec). At the end of the cleaning cycle, the coupons were wiped once with a dry paper towel. Coupons dried overnight and final weights were recorded. Efficiencies were calculated and recorded. Cleaners evaluated: Soap Scum RTU by EnvirOx; Soap Scum Conc. by EnvirOx; Wall Glide Plus by Ecolab Inc.
Results:	The ready to use version of Soap Scum cleaner was the least effective after 30 seconds of cleaning, especially on the ceramic coupons. Soap Scum Concentrate was slightly lower in removal percentage than the Wall Glide Plus, but when reviewing the standard deviation of the two cleaners, there was no difference between them. Although none of the cleaners had performed to laboratory standard of effectiveness of 85%, Soap scum concentrate performs as well as the competitor product tested.

Cleaner	Substrate	Initial wt	Final wt	% Removed	%Average	%Overall Ave
Soap Scum RTU	Ceramic					
		1.010	0.478	52.63	58.47	74.65
		1.004	0.336	66.51		
		1.024	0.448	56.28		
	Polycarb					
		1.019	0.091	91.07	83.34	
		1.113	0.116	89.57		
		1.077	0.330	69.39		
	Painted Steel					
		1.041	0.232	77.77	82.13	
		1.012	0.089	91.23		
		1.057	0.239	77.40		
Soap Scum Conc. (1:6.4)						
	Ceramic					
		1.020	0.159	84.40	81.08	82.81
		1.097	0.300	72.64		
		1.004	0.138	86.21		
	Polycarb					
		1.065	0.109	89.77	83.53	
		1.047	0.188	82.03		

CLEANING LABORATORY EVALUATION SUMMARY

		1.040	0.221	78.79		
	Painted Steel					
		1.020	0.163	83.99	83.81	
		1.011	0.102	89.95		
		0.990	0.223	77.48		
Ecolab Wall Glide						
	Ceramic					
		1.052	0.146	86.13	78.49	83.31
		1.049	0.359	65.82		
		1.014	0.167	83.53		
	Polycarb					
		1.024	0.087	91.52	87.88	
		1.038	0.134	87.06		
		1.091	0.163	85.07		
	Painted Steel					
		1.013	0.099	90.27	83.56	
		1.041	0.197	81.11		
		1.003	0.208	79.32		

Summary:

Substrates:	Ceramics, Plastic, Steel
Contaminants:	Greases, Food

Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
EnvirOx LLC	Hard Water/Soap Scum Remover	100	74.65	☐	
EnvirOx LLC	Hard Water/Soap Scum Remover	15.6	82.81	☑	
EcoLab	Wall Glide Plus (Diluted)	1.5	83.56	☑	

Conclusion:

At the end of the cycle (30 sec), Soap Scum RTU had an average overall cleaner percentage of 74.65%. When observing substrates individually, Soap Scum Conc. had the best success at removing most of DCC-17 from all substrates. Overall, Soap Scum Conc. had 0.5% less removal of the overall cleaner compared to Wall Glide Plus.