TURI SURFACE SOLUTIONS LABORATORY EVALUATION SUMMARY

 SCL #:
 2012-20-352-2-4

 Date Run:
 11/7/2012

 Experimenters:
 Geng; Le;

 Client Type:
 17

Project Number: 1

Substrates: Glass/Quartz; Chrome;

Part Type: 2

Contaminants: Films; Soaps;
Cleaning Methods: Manual Wipe;
Analytical Methods: Gravimetric; Visual;

Purpose: To evaluate the supplied tablet product for glass cleaning using manual wiping.

Experimental Procedure: The supplied product was diluted with water to the requested dilution (1.5 grams/16 ounces). A comparative product was

used at the ready-to-use concentration.

Pre-weighed chrome and three glass coupons were coated with SSL Soil 2 (Glass soap scum: Water 51.5%, Hair gel 25.6%, Toothpaste 10.4%, Shaving cream 5.3%, Hair spray 3.7% and Spray deodorant 3.5%) using a hand held swab and allowed to dry for 24 hours at room temperature. 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 Wypall X60 reinforced wipe was attached to the cleaning sled and soaked with 1-2 sprays of cleaning solutions. Each coupon was sprayed 2-3 times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 5 cycles (~10 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded and efficiencies recorded. Visual observations were made on the coupons for spotting and filming following the general guidelines set forth in the CSPA DCC 09A. Filming is best recognized as "haziness" or overall "milkiness", while streaking is best identified as dried droplets or "spotting", usually found strung together into thin white lines. Each coupon was evaluated separately for filming and streaking, (i.e., product residues without added soil), according to a scale of "1" to "7" with;

Filming Streaking

7 = high filming 7 = high streaking poor (performance)

1 = no visible filming 1 = no visible streaking (excellent performance)

Chemistries Evaluated: DAZZ Glass Cleaning Tablet; Windex;

Results:

Both products removed more than 85% of the glass soap scum using manual cleaning. The on-the-market product was slightly better at reducing any filming on the surface than the supplied product. Both had equal ratings for streaking. Filming had the supplied product at 3.2 and the on-the-market product at 2.8. Both products were rated on average at 3.6 for streaking on the 7 point scale. The first table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned. The second table lists the ratings made for filming and streaking.

Cleaner	Init	ial	wt	Fin	al w	rt		% Rer	nove	d		
DAZZ - m	nirro	r										
	0.01	53		0.	0018			88.2	24			
	0.00	73		0.	0026	,		64.3	38			
	0.01	52		0.	0028			81.	58			
DAZZ - c	lass											
_	0.01	53		0.	0019)		87.	58			
	0.01	24		0.	0006	;		95.	16			
	0.01	01		0.	0001			99.0)1			
DAZZ - c	hrom	е										
	0.01	61		0.	0021			86.	96			
	0.01	85			0024			87.0				
	0.02				0024			91.				
Windex -												
	0.01			0.	0040	1		79.0) 6			
	0.01				0027			80.				
	0.00				0024			72.				
Windex -				٠.	0021			,				
Willach	0.02			Ο	0014			93.2	7			
	0.02				0036			83.4				
	0.0217			0.0006				94.				
Windex -				٠.	0000	·		24.	J 1			
Willdex	0.01			Λ	0025			85.8	2 0			
	0.01//			0.0025				92.8				
0.0373				0.0026				90.				
	0.03	15		0.	0033	'		90.	32			
Filming	Ohs	erve	r									
Coupon	A	C	_	В			С		(Coupon Ave	Product	Ave
1A	4	5	4	4	4	4	4	4	4	-	3.2	11 V C
1B	2	2	2	1	2	1	2	1	2		J.2	
1C	4	4	3	4	4	4	4	4	4			
2A	3	3	3	2	2	2	3	3	2	2.6	2.8	
2B	2	2	3	2	2	2	2	2	2	2.1	2.0	
2 D	_	_	3	_	_	_	_	_	_	∠ . ⊥		

2C	3	3	4	4	3	4	4	4	4	3.7	
Streakin	ng Ok	oserv	ver								
Coupon	Α			В			C				
1A	5	5	4	4	4	4	5	4	4	4.3	3.6
1B	2	2	2	2	2	2	2	1	2	1.9	
1C	5	4	4	4	5	4	4	5	5	4.4	
2A	5	5	4	4	4	4	5	4	4	4.3	3.6
2B	2	2	3	3	3	3	3	2	3	2.7	
2C	3	3	3	4	4	4	4	4	4	3.7	

Summary Substrates: Glass/Quartz; Chrome;

Contaminants: Films; Soaps;

CompanyName: Product Name Conc. Efficiency Effective Observations

Sunstate Laboratories LLC DAZZ Glass tablet 1.5 g/16/oz 86.82 Yes Filming - 3.2; Streaking 3.6 SC Johnson & Son Inc Windex 100 85.81 Yes Filming - 2.8; Streaking 3.6

Conclusion:

The supplied tablet glass cleaner worked as well as the on-the-market product for soil removal and streaking and was only marginal less in the amount of filming left behind.

TURI SURFACE SOLUTIONS LABORATORY EVALUATION SUMMARY

SCL #: 2012-20-352-0-4-

Date Run: 11/9/2012

Experimenters: Geng; Nguyen; Le; Le;

Client Type: Chemical Mfr;

Project Number:

Substrates: Ceramics: Plastic: Steel:

Part Type: 2

Contaminants: Greases; Oil; Food; Cleaning Methods: Manual Wipe; Analytical Methods: Gravimetric;

Purpose: To evaluate supplied tablet for all purpose cleaning

Experimental Procedure: The provided product tablet (~2.5grams) was dissolved in 16 ounces of water. A comparative product was used at the ready-to-

use concentration.

Pre-weighed ceramic, plastic and painted steel coupons were coated with a mixture of shortening (33%), lard (33%) and cooking oil(33%) using a hand held swab and allowed to dry for 24 hours at room temperature. 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 2-3 sprays of cleaning solutions. Each coupon was sprayed 1-2 times 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: DAZZ All Purp

DAZZ All Purpose; Formula 409 All Purpose Cleaner;

Results:

Both products removed more than 95% of the soil using manual wiping for 30 seconds. The table lists the amount of soil added, the amount remaining and the efficiency of each coupon cleaned.

Cleaner	Initial wt H	Final wt	% Removed
DAZZ All	. Purpose - Cer		
	0.0801	0.0025	96.88
	0.0801 0.0846	0.0055	93.50
	0.0360		88.06
DAZZ All	. Purpose - Pai	nted Steel	
	0.0538	0.0037	93.12
	0.0746	0.0024	96.78
	0.0659	0.0039	94.08
DAZZ All	. Purpose - Pla	astic	
	0.0889	0.0013	98.54
	0.0833	0.0066	92.08
	0.1058	0.0109	89.70
Formula	409 - Ceramic		
	0.0807	0.0049	93.93
	0.0742	0.0047	93.67
	0.0769	0.0098	87.26
Formula	409 - Painted	Steel	
	0.0563		95.38
	0.0630		93.33
			91.06
Formula	409 - Plastic	0.0072	31.00
101	0.0819	0.0087	89.38
	0.0767		96.35
	0.1255		96.02
	0.1233	0.0030	90.02

Summary Substrates: Ceramics; Plastic; Steel;

Contaminants: Greases; Oil; Food;
Company Name: Product Name

Company Name:Product NameConc.EfficiencyEffectiveSunstate Laboratory LLCDAZZ All Purpose Cleaner Tablet2.5g/16oz93.64YesCloroxFormula 409 All Purpose Cleaner10092.93Yes

Conclusion: The supplied product worked as well as an on-the market all purpose cleaning product.

TURI SURFACE SOLUTIONS LABORATORY EVALUATION SUMMARY

 SCL #:
 2012-20-352-1-4

 Date Run:
 2/14/2013

 Experimenters:
 Geng; Le;

 Client Type:
 Chemical Mfr;

Project Number: 1

Substrates: Ceramics; Plastic; Chrome;

Part Type: Coupons; Contaminants: Films; Soaps; Cleaning Methods: Manual Wipe; Analytical Methods: Gravimetric;

Purpose: To evaluate supplied product tablet for bathroom cleaning

Experimental Procedure: The supplied cleaning product was used at the recommended concentration (2.5g per 16 ounces water). A comparative

product was used at the ready-to-use concentration.

Preweighed chrome, ceramic and fiberglass, coupons were coated with SSL Soil 1 (Bathroom soap scum: All-in-one shampoo and conditioner 28.6%, Dry skin lotion 21.4%, Liquid hand soap 21.4%, Liquid body wash 14.3%, Deodorant bar soap 7.2% and water 7.1%.) using a hand held swab and allowed to dry for 24 hours at room temperature. 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 Wypall X60 reinforced wipe was attached to the cleaning sled and soaked with 2-3 sprays of cleaning solutions. Each coupon was sprayed 2-3 times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded and efficiencies were calculated and recorded.

Chemistries Evaluated:

DAZZ Bathroom Tablet; Clorox Bathroom Cleaner RTU;

Results:

Both products removed more than 90% of the bathroom soap scum mixture using manual wiping for 30 seconds. The table lists the amount of soil added, the amount remaining and the efficiency of each coupon cleaned.

Cleaner Initial wt DAZZ - ceramic	Final wt	% Removed
0.0692	0.0002	99.71
0.0417	0.0006	98.56
0.0674	0.0008	98.81
DAZZ - plastic		
0.0344	0.0006	98.26
0.0204	0.0010	95.10
0.0318	0.0013	95.91
DAZZ - chrome		
0.0388	0.0012	96.91
0.0392	0.0017	95.66
0.0317	0.0029	90.85
Clorox - ceramic		
0.0601	0.0019	96.84
0.0465	0.0061	86.88
0.0439	0.0004	99.09
Clorox - plastic		
0.0568	0.0010	98.24
0.0281	0.0004	98.58
0.0536	0.0029	94.59
Clorox - chrome		
0.0463	0.0025	94.60
0.0430	0.0016	96.28
0.0333	0.0005	98.50
0.0000	0.0000	30.00

Summary Substrates: Ceramics; Plastic; Chrome;

Contaminants: Soaps; Films;

Company Name:Product NameConc.EfficiencyEffectiveSunstate Laboratory LLCDAZZ Bathroom Cleaner Tablet2.5g/16oz96.64YesCloroxBathroom Cleaner RTU10095.95Yes

Conclusion: The supplied product worked as well as the on-the-market product for bathroom cleaning.