

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2019

DateRun: 01/31/2019

Experimenters: Othon Pagounes, Tatyanna Moreland Junior

ClientType:

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate the effectiveness of CLEANER in the removal of SOILS on various surfaces.

Experimental Procedure: Thirty pre-weighed coupons, six per cleaner, were contaminated with either (A) maintenance soil or (B) production soil using a swab. Coupons contaminated with maintenance soil aged for 30 minutes at 105 F, and 30 minutes at 220 F for production soil. Coupons were immersed into the cleaning solution and then rinsed in a tap water bath. Coupons were left to air dry for 30 minutes at room temperature before oven drying at 105 F for 30 minutes. Coupons were cooled before final weights were recorded.

Results:

Cleaner	Soil	Initial wt	Dirty wt	Clean wt.	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
1	A	60.9449	61.0448	61.1085	0.0999	0.1636	-63.76	0.30	34.10
		48.0576	48.1406	48.1124	0.0830	0.0548	33.98		
		48.0087	48.1100	48.0789	0.1013	0.0702	30.70		
	B	47.9705	48.0603	47.9793	0.0898	0.0088	90.20	88.10	
		64.2473	64.3653	64.2572	0.1180	0.0099	91.61		
		61.2283	61.3665	61.2525	0.1382	0.0242	82.49		
2	A	63.6739	63.7367	63.7316	0.0628	0.0577	8.12	13.90	39.52
		63.9777	64.0310	64.0222	0.0533	0.0445	16.51		
		47.8547	47.9608	47.9427	0.1061	0.0880	17.06		
	B	62.8221	62.9210	62.8297	0.0989	0.0076	92.32	85.12	
		60.8239	60.9234	60.8327	0.0995	0.0088	91.16		
		60.0665	60.1455	60.0887	0.0790	0.0222	71.90		
3	A	62.6707	62.7759	62.7532	0.1052	0.0825	21.58	19.53	42.18
		60.3390	60.4282	60.4109	0.0892	0.0719	19.39		
		62.6885	62.7799	62.7638	0.0914	0.0753	17.61		
	B	62.4913	62.5944	62.5013	0.1031	0.0100	90.30	86.47	
		64.0114	64.0914	64.0229	0.0800	0.0115	85.63		
		60.4622	60.5615	60.4786	0.0993	0.0164	83.48		
4	A	48.1247	48.2444	48.2291	0.1197	0.1044	12.78	20.55	43.34
		60.2143	60.3387	60.3148	0.1244	0.1005	19.21		
		60.0946	60.1981	60.1674	0.1035	0.0728	29.66		
	B	62.6112	62.7093	62.6220	0.0981	0.0108	88.99	90.36	
		62.6879	62.7554	62.6958	0.0675	0.0079	88.30		
		48.1031	48.1773	48.1077	0.0742	0.0046	93.80		
5	A	60.0830	60.1550	60.1366	0.0720	0.0536	25.56	19.11	55.64
		58.5588	59.6584	59.6269	1.0996	1.0681	2.86		
		48.1397	48.2030	48.1847	0.0633	0.0450	28.91		
	B	47.8312	47.9921	47.8418	0.1609	0.0106	93.41	92.18	
		59.6913	59.7719	59.7030	0.0806	0.0117	85.48		
		63.9072	64.0215	63.9099	0.1143	0.0027	97.64		

Cleaner 1 with soil A, cleaner 2 with soil B, and cleaner 5 with soil A yielded unusual numbers. The likely cause is that the soil absorbed the cleaning product, causing the clean weight to weigh more than the initial weight of the coupons.

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Summary:

Substrates:		Stainless Steel				
Contaminants:		Oil				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:	
Simple Green	Crystal Simple Green Industrial Cleaner & Degreaser	100	88.10	<input checked="" type="checkbox"/>	production soil	
Sycamore Group	Sycamore Degreaser 021	100	85.12	<input checked="" type="checkbox"/>	production soil	
Sycamore Group	Sycamore Degreaser 022	100	86.47	<input checked="" type="checkbox"/>	production soil	
Sycamore Group	Sycamore Degreaser 023	100	90.36	<input checked="" type="checkbox"/>	production soil	
Sycamore Group	Sycamore Degreaser 005	100	92.18	<input checked="" type="checkbox"/>	production soil	

Conclusion:

The Sycamore degreaser products are more effective than Crystal Simple Green cleaning product at removing oil from stainless steel.