

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009
 DateRun: 01/20/2009
 Experimenters: Daniel Pina
 ClientType: Lab
 ProjectNumber: Project #1
 Substrates: Brass
 PartType: Part
 Contaminants: Greases
 Cleaning Methods: Immersion/Soak
 Analytical Methods: Gravimetric
 Purpose: To test nontoxic industrial cleaning solutions for grease removal.

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning. Products were selected based on the compatibility of substrate and removal of foreign substance. Used 5% concentration and heated the samples at 135F. The steel coupons were immersed in a product for 5 minutes, rinsed for 30 seconds in tap water at 120F and dried in 30 seconds using compressed air is room temperature. Coupons were coated with used oil. Using a handheld swab and allowed to dry for 144 minutes at room temperature. The contaminated coupons were weighed again to determine the amount of soil added. After cleaning process, the final weights were recorded, efficiencies were calculated and recorded.

Results:

Cleaner	Initial wt	Final wt	% Removed
Magnaflux Daraclean 259		59.0000	
	1.7741	1.6813	5.23
	1.5599	1.4506	7.01
	1.4427	1.4054	2.59
Magnaflux Daraclean 236			
	0.7818	0.6928	11.38
	1.5056	1.4638	2.78
	0.1570	0.1342	14.52
Magnaflux Daraclean 238			
	0.5826	0.5460	6.28
	1.1418	1.0280	9.97
	0.8883	0.8388	5.57
Magnaflux Daraclean 23			
	0.8092	0.7514	7.14
	0.4238	0.3678	13.21
	0.9719	0.8904	8.39
Magnaflux Daraclean 257			
	2.3197	2.1987	5.22
	1.3606	1.2548	7.78
	0.6883	0.6259	9.07
Kyzen Corporation Metalnox M6432			
	0.7262	0.6465	10.97
	0.9068	0.8676	4.32
	0.3740	0.3410	8.82
Kyzen Corporation Optisolv OP 7168			
	0.3493	0.2916	16.52
	0.9476	0.8972	5.32

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	0.6929	0.6225	10.16
Brulin Corporation Aquasafe			
	1.4997	1.4407	3.93
	2.0268	1.9645	3.07
	2.4741	2.4094	2.62
Warren Chemical Company, Sea Wash			77
	0.6615	0.6011	9.13
	1.5551	1.4951	3.86
	0.9329	0.8734	6.38
Phase III inc. Nature Solve AC			
	0.3697	0.3019	18.34
	1.5269	1.4697	3.75
	3.6326	3.5683	1.77

Summary:

Substrates:	Brass				
Contaminants:	Greases				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Magnaflux	Daraclean 259	5	4.94	<input type="checkbox"/>	
Magnaflux	Daraclean 238	5	7.27	<input type="checkbox"/>	
Magnaflux	Daraclean 203	5	9.58	<input type="checkbox"/>	
Magnaflux	Daraclean 257	5	7.35	<input type="checkbox"/>	
Kyzen Corporation	Metalnox M6432 (For Comparison Only)	5	8.04	<input type="checkbox"/>	
Kyzen Corporation	Optisolv 7168	5	10.67	<input type="checkbox"/>	
Warren Chemical Company	Sea Wash 77	5	6.46	<input type="checkbox"/>	
Phase III Inc	Nature Solve AC	5	7.95	<input type="checkbox"/>	
Brulin Corporation	Aqua Safe	5	3.21	<input type="checkbox"/>	

Conclusion:

None of the products has passed the minimum requirements of 85% removal rate to have a passing score with the concentration that was tested on 5 percent.