# CLEANING LABORATORY EVALUATION SUMMARY

| | |
|---|---|
| SCL #: | 2009 |
| DateRun: | 01/19/2009 |
| 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.<br>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 |
| Mangnaflux 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 | ☐ | |
| Magnaflux | Daraclean 238 | 5 | 7.27 | ☐ | |
| Magnaflux | Daraclean 203 | 5 | 9.58 | ☐ | |
| Magnaflux | Daraclean 257 | 5 | 7.35 | ☐ | |
| Kyzen Corporation | Metalnox M6432 (For Comparison Only) | 5 | 8.04 | ☐ | |
| Kyzen Corporation | Optisolv 7168 | 5 | 10.67 | ☐ | |
| Warren Chemical Company | Sea Wash 77 | 5 | 6.46 | ☐ | |
| Phase III Inc | Nature Solve AC | 5 | 7.95 | ☐ | |
| Brulin Corporation | Aqua Safe | 5 | 3.21 | ☐ | |

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.