

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009
 DateRun: 02/09/2009
 Experimenters: Johanna Oviedo
 ClientType: Lab
 ProjectNumber: Project #1
 Substrates: Stainless Steel
 PartType: Coupon
 Contaminants: Greases
 Cleaning Methods: Immersion/Soak
 Analytical Methods: Visual
 Purpose: To test nontoxic industrial cleaning solutions for oil 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 10% 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.

| Cleaner | Initial wt | Final wt | % Removed |
|-------------------------------------|------------|----------|-----------|
| Kyzen Corporation, Industrial Floor | | | |
| | 0.1275 | 0.0307 | 75.92 |
| | 0.1276 | 0.1013 | 20.61 |
| | 0.2384 | 0.0604 | 74.66 |
| Vertec BioSolvents | | | |
| | 0.1113 | 0.0193 | 82.66 |
| | 0.2803 | 0.0046 | 98.36 |
| | 0.2909 | 0.0440 | 84.87 |
| Seventh Generation | | | |
| | 0.2615 | 0.0364 | 86.08 |
| | 0.1409 | 0.0276 | 80.41 |
| | 0.2068 | 0.0377 | 81.77 |
| Sky Product Cleaner | | | |
| | 0.0516 | 0.0316 | 38.76 |
| | 0.3475 | 0.0810 | 76.69 |
| | 0.2288 | 0.0231 | 89.90 |

| | | | | | | |
|----------|--------------------------|---------------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Summary: | Substrates: | Stainless Steel | | | | |
| | Contaminants: | Greases | | | | |
| | Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| | Kyzen Corporation | Industrial Floor Cleaner 11 | 10 | 57.07 | <input type="checkbox"/> | |
| | Vertec BioSolvents | VertecBio Gold Unscented Part Cleaner | 10 | 88.63 | <input checked="" type="checkbox"/> | |
| | Seventh Generation | Free & Clear All Purpose | 10 | 82.75 | <input type="checkbox"/> | |
| | Sky Products Company Inc | Cleaner #10 | 10 | 68.45 | <input type="checkbox"/> | |

Conclusion: One product removed over 85% of the grease from stainless steel using immersion cleaning.