

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008
 DateRun: 11/04/2008
 Experimenters: Johanna Oviedo
 ClientType: Lab
 ProjectNumber: Project #1
 Substrates: Stainless Steel
 PartType: Coupon
 Contaminants: Oil
 Cleaning Methods: Immersion/Soak
 Analytical Methods: Gravimetric

Purpose: To test nontoxic industrial cleaning solution for oil removal.

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning. Products were selected based in the compatibility of substrate and removal of foreign substance. Used 10% of concentration and heated the samples at 135 F. The coupons were immersed in a product for 5 minutes, dried in 30 seconds using compressed air is 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.

| Cleaner | Initial wt | Final wt | % Removed |
|----------------------------------|------------|----------|-----------|
| Kyzen Corporation Optisol Op7432 | | | |
| | 0.5136 | 0.4399 | 14.36 |
| | 0.3518 | 0.1498 | 57.42 |
| | 0.2410 | 0.0542 | 77.51 |
| Kyzen Corporation Optisol Op7168 | | | |
| | 0.5370 | 0.2175 | 59.50 |
| | 0.3416 | -0.0283 | 108.28 |
| | 0.3664 | -0.0275 | 107.51 |
| Brulin Corporation, Metalnox | | | |
| | 0.1288 | 0.0088 | 93.17 |
| | 0.1883 | 0.0096 | 94.90 |
| | 0.1045 | 0.0059 | 94.35 |

| Summary: | | Substrates: Stainless Steel | | | |
|--------------------|-----------------|------------------------------------|-------------|-------------------------------------|---------------|
| | | Contaminants: Oil | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Kyzen Corporation | Optisolv OP7432 | 10 | 49.76 | <input type="checkbox"/> | |
| Kyzen Corporation | Optisolv OP7168 | 10 | 91.76 | <input checked="" type="checkbox"/> | |
| Brulin Corporation | Compliance | 10 | 94.14 | <input checked="" type="checkbox"/> | |

Conclusion: The Optisol Op7432 cleaned better than the others.