

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2001

DateRun: 11/19/2001

Experimenters: Ravi Krishnappa

ClientType: Lab

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Lubricating/Lapping Oils

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative cleaning products

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning.
(i) 5 minute immersion cleaning with stir bar agitation @ 120 degree F.
(ii) 30 sec manual rinse with water @120 degree F.
(iii) air drying for about 24 hours.
CONTAMINANT INFO: Quench Oil

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|----------|---------------|----------------------|-------|---------------|
| Results: | Product | Company | Conc. | Avg % Removal |
| | Solution 2000 | Clean Safe Solutions | 10% | 66.9 |

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|----------|------------------------------|----------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Summary: | Substrates: | Stainless Steel | | | | |
| | Contaminants: | Lubricating/Lapping Oils | | | | |
| | Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| | EnviroSan Products Ltd | Solution 2000 | 10 | 66.90 | <input type="checkbox"/> | |
| | LPS Laboratories | Precision Clean Concentrate | 10 | 96.50 | <input type="checkbox"/> | |
| | EcoLink | Heavy Weight Non Butyl Detergent | 10 | 61.10 | <input type="checkbox"/> | |
| | Cleaning Systems | Release | 10 | 90.80 | <input checked="" type="checkbox"/> | |
| | Ardrox Inc | 6333 | 25 | 96.40 | <input checked="" type="checkbox"/> | |
| | Baum's Castorine Company Inc | EZE Oil-Grease Cleaner | 25 | 97.40 | <input checked="" type="checkbox"/> | |

Conclusion: Ultrasonic tests on precision clean and heavyweight are necessary to further support their effectiveness. Unlike all other cleaners used in this test, these two cleaners are reported to be aqueous and non-alkaline, non butyl cleaners, respectively.