# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 10/12/2006

Experimenters: Jason Marshall

ClientType: Lab

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Carbon Deposits, Greases, Oil

Cleaning Methods: Low Pressure Spray

Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative aerosol cleaning products

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning.

Six products were selected for testing based on an aerosol formulation for brake cleaning. Another product was selected but tested using a manual pumping delivery. The products were used at full strength in spray cans as delivered by the vendors. Products were used at room temperature. Seven preweighed aluminum coupons were coated with a collection of brake/engine soil collected from an automobile shop. The coupons were allowed to sit for several days before a second weight was recorded. One coupon was cleaned in for 30 seconds using the spray can. Coupons were weighed and efficiencies were calculated.

Results: The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

| Cleaner | Initial wt | Final wt | % Removed |
|---|---|---|---|
| BioBrake | 0.2126 | 0.0273 | 87.16 |
| Mirachem 500 A | 0.1413 | 0.0224 | 84.15 |
| Brakleen | 0.1252 | 0.0197 | 84.27 |
| Heavy Duty Cleaner-Degreaser | 0.5537 | 0.0893 | 83.87 |
| Micro X | 0.3644 | 0.0143 | 96.08 |
| Non-chlorinated Brake Cleaner | 0.8154 | 0.0322 | 96.05 |
| SL 100 | 0.6062 | 0.0935 | 84.58 |

Summary:

| | |
|---|---|
| **Substrates:** | Aluminum |
| **Contaminants:** | Carbon Deposits, Greases, Oil |

| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
|---|---|---|---|---|---|
| Bio Chem Systems | BioBrake | 100 | 87.16 | ☑ | |
| Mirachem Corporation | Mirachem 500 A | 100 | 84.15 | ☑ | |
| CRC Industries | Brakleen Brake Aerosol | 100 | 84.27 | ☑ | |
| WD 40 Company | Heavy Duty Cleaner-Degreaser | 10 | 83.87 | ☑ | |
| LPS Laboratories | Micro X | 100 | 96.08 | ☑ | |
| Barnes | Non Chlorinated Brake Washer | 100 | 96.05 | ☑ | |
| Bi-O-Kleen Industries | Soy Lube- SL 100 | 100 | 84.58 | ☑ | |

Conclusion: All seven aerosol products showed good cleaning abilities in the preliminary testing phase and all will be evaluated further.