# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 01/29/2006

Experimenters: Jason Marshall

ClientType: Lab

ProjectNumber: Project #1

Substrates: Glass/Quartz

PartType: Part

Contaminants: Carbon Deposits, Waxes

Cleaning Methods: Manual Wipe

Analytical Methods: Photography, Visual

Purpose: Laboratory evaluations of alternative cleaning products

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

Initially four cleaners were selected for removing candle wax and carbon deposits from glass jars. Each product was used at a diluted concentration. Prior to the addition of any cleaning product, the glass jars were soaked for 5 minutes using tap water at 120 F to remove excess wax in the bottom of the jar. The inside of each jar was wiped to ensure approximately the same level of contamination. Following bulk removal of wax, each cleaning product was poured into a jar and allowed to soak at 120 F for another 5 minutes. Then the inside of the jar was wiped with a paper towel to remove the contaminants. This process was done while still filled with warm cleaning product. Each jar was cleaned for about 5 minutes. At the end of cleaning, the jars were photographed and compared to the other products.

Results: Only one of the four initial products had difficulty removing most of the wax and carbon deposits within the five-minute wiping. After photographing this jar, another product was selected and emptied into the jar and cleaned in the same manner as the other products. The table below lists the observations and ranking for each of the five products.

| Cleaner Observation Ranking | Observation | Rank |
|---|---|---|
| DFC 23 Wax | residue still on jar most of the carbon deposits were gone | 4 |
| H2O2 | Very clean | 1 |
| DFC 30 | Almost as clean as H2O2. Some wax still remaining | 2 |
| Bi-O-Klean Glass | Similar to DFC 30. Some carbon deposit remaining | 2 |
| Cogent Degreaser | Worked as well as H2O2. Did have less to remove at start | ~1 |

Summary:

| **Substrates:** | Glass/Quartz |
|---|---|
| **Contaminants:** | Carbon Deposits, Waxes |

| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
|---|---|---|---|---|---|
| Cogent Environmental Solutions | DFC 23 | 0.4 | 0.00 | ☐ | Rank = 4 |
| Cleanline Products | H2O2 Super Citrus Concentrate | 8 | 0.00 | ☑ | Rank = 1 |
| Cogent Environmental Solutions | DFC 30 | 2.5 | 0.00 | ☑ | Rank = 2 |
| Bi-O-Kleen Industries | Bi-O-Kleen Glass Cleaner | 10 | 0.00 | ☑ | Rank = 2 |
| Cogent Environmental Solutions | DFC Degreaser | 3 | 0.00 | ☑ | Rank ~ 1, less soil at start |

Conclusion: Four of the five products worked well at removing the wax and carbon deposits from glass jars using manual wiping.