

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009

DateRun: 02/04/2009

Experimenters: Jason Marshall, Junhee Cho

ClientType: Light Manufacturer

ProjectNumber: Project #1

Substrates: Plastic

PartType: Part

Contaminants: Carbon Deposits

Cleaning Methods: Manual Wipe

Analytical Methods: Visual, Wipe

Purpose: To evaluate top cleaning products on supplied parts using spray bottle and wiping.

Experimental Procedure: The top seven products from the previous trial were selected to clean the supplied parts. The client's current products also were included for comparative purposes. Each product was sprayed onto the dirty part coated with carbon black. The cleaning product was then wiped with minimal agitation using a Kimberly Clark Wypall X60 reinforced wiper. Observations were made and products were ranked based on visual observations and wipe rankings.

Results: Many of the alternatives worked better than the current product. The visual rankings are listed in the table below.

| Product | Ranking |
|------------------------------|---------|
| EnviroCare Glass Cleaner | 6 |
| Clorox Glass & Surface | 7 |
| Clorox Natural Glass Cleaner | 4 |
| Stay Clean Glass Cleaner | 8 |
| Biorenewables Glass Cleaner | 5 |
| Glass and Window Answer | 2 |
| 101 Neutral Glass Cleaner | 1 |
| Amberclean Q3 | 3 |

Summary:

| Substrates: | Plastic | | | | |
|--|---|--------|-------------|-------------------------------------|---------------|
| Contaminants: | Carbon Deposits | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Rochester Midland Corporation | EnviroCare Glass Cleaner | 5 | | <input type="checkbox"/> | |
| Clorox Company | Green Works Glass and Surface Cleaner | 100 | | <input type="checkbox"/> | |
| Clorox Company | Green Works Natural Glass Cleaner | 100 | | <input checked="" type="checkbox"/> | |
| 1st Envirosafety Inc. - No Longer Exists | Stay Cleaner Colloidal Glass Cleaner - For Comparison Purposes Only | 100 | | <input type="checkbox"/> | |
| Spartan Chemical Company | Biorenewables Glass Cleaner | 5 | | <input checked="" type="checkbox"/> | |
| Environmental Care and Share | Glass and Window Answer | 100 | | <input checked="" type="checkbox"/> | |
| Next-Gen Supply Group | PC 101 Neutral and Glass Cleaner | 100 | | <input checked="" type="checkbox"/> | |
| Innovative Organics Inc | Amberclean Q3 | 5 | | <input checked="" type="checkbox"/> | |

Conclusion:

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Parts returned to client for follow up analysis. Lab piloting of top products may be conducted to determine the optimum cleaning conditions.