

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2007

DateRun: 08/20/2007

Experimenters: Jason Marshall, Shweta Bansal, Andrea Cheeseman

ClientType: General

ProjectNumber: Project #2

Substrates: Plastic

PartType: Coupon

Contaminants: Waxes

Cleaning Methods: Mechanical Agitation

Analytical Methods: Visual

Purpose: To evaluate products using client supplied conditions for products at a longer time interval.

Experimental Procedure: The successful products from the previous trials were used at 50% dilution at 10 minute cleaning intervals. In addition, several new products that were not previously tested were included in this round of testing. Furthermore, some of the new products were used at lower dilutions as recommended by the vendors.

Full vinyl tile coupons (12"x12") were coated with the Johnson Wax Show Place floor coating using a paint brush. The coating was allowed to dry for an hour. After completely dry, additional coats were applied. A total of four coats were used.

Each solution was applied to one tile and allowed to soak for 10 minutes. At the end of the soaking, the tile was stripped manually using sections of the scrubbing pad. During scrubbing, hot water was added to the tile and stripping solvent, simulating the procedure witnessed during an on-site visit to the client's facility. Observations were recorded on the effectiveness of the strippers. In addition, three lab personnel independently ranked the strippers for performance. An average of the three assessments were made.

Results: All Products Used at 50% Dilutions Unless Otherwise Noted.  
10 minutes of cleaning

| Manufacturer             | Product             | Stripping Observations                           | Ranking                                |    |      |             |
|--------------------------|---------------------|--|--|----|------|-------------|
|                          |                     |  | 1= Most Efficient; 19= Least Efficient |    |      |             |
|                          |                     | Employee   | 1                                      | 2  | 3    | Overall Ave |
| Abatement Technologies   | Citrus Pure Remover | Removed a lot of wax                             | 13                                     | 11 | 16   | 13.3        |
| Bio-Kleen                | Super Stripper 1:3  | Removed a lot of wax                             | 3                                      | 1  | 3    | 2.3         |
| Bio-Kleen                | Super Stripper 1:5  | Removed a lot of wax                             | 4                                      | 2  | 4    | 3.3         |
| Bi-O-Kleen               | SL-100              | Some layers of wax removed                       | 17                                     | 16 | 14   | 15.7        |
| The Clean Environment Co | Cycle-Strip         | Removed a lot of wax, softened the remaining wax | 9                                      | 12 | 7    | 9.3         |
| Ecolink                  | Safe-Strip          | Removed a lot of wax                             | 8                                      | 10 | 6    | 8           |
| EnvirOx, LLC             | Grout-Safe          | Removed very little wax (1-layer) 16             | 8                                      | 17 | 13.6 |             |

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|                             |                          |  |    |    |    |      |
|-----------------------------|--------------------------|--|----|----|----|------|
| Finger Lakes Chemicals      | Graffiti Remover         | Removed a lot of wax, all wax can be peeled off manually, leaves a very sticky surface | 1  | 13 | 1  | 5    |
| Finger Lakes Chemicals      | Resineater               | Removed a lot of wax, all wax can be peeled off manually, leaves a sticky surface      | 2  | 17 | 2  | 7    |
| Franmar                     | Soy-Gel                  | Removed a lot of wax   | 10 | 3  | 13 | 8.7  |
| Franmar                     | Soy-Strip                | Removed a lot of wax, can be peeled off manually                                       | 6  | 7  | 5  | 6    |
| Gemtek                      | SC Maxi Solve            | Removed a lot of wax   | 11 | 6  | 11 | 9.3  |
| Green Products LLC          | Amaizeing                | Looks though no wax removed at all. Better at 5 minutes                                | 12 | 14 | 15 | 13.7 |
| Inland Technologies         | Citra-Safe               | Oily, does not spread evenly, removed very little wax (1 layer)                        | 18 | 19 | 19 | 18.7 |
| Inland Technologies         | EP 921                   | Removed a lot of wax   | 15 | 18 | 9  | 14   |
| SoySafe                     | Graffiti Remover         | Not tested, dilution formed solid-like substance                                       |    |    |    |      |
| Soysolv Industrial Products | SoySolv                  | Oily, does not spread evenly, removed very little wax (1 layer)                        | 19 | 15 | 18 | 17.3 |
| Spartan                     | Graffiti Remover SAC RTU | Removed a lot of wax   | 14 | 4  | 12 | 10   |
| Spartan                     | Green Solutions          | Removed a lot of wax   | 5  | 5  | 10 | 6.7  |
| Vertec                      | Household Paint Stripper | Not tested, dilution formed solid-like substance                                       |    |    |    |      |
| Vertec                      | Ink Zapper               | Removed a lot of wax, flakey, sticky surface   | 7  | 9  | 8  | 8    |

Summary:

|                      |                      |               |                    |                   |                      |  |
|----------------------|----------------------|---------------|--------------------|-------------------|----------------------|--|
| <b>Substrates:</b>   | Plastic              |               |                    |                   |                      |  |
| <b>Contaminants:</b> | Waxes                |               |                    |                   |                      |  |
| <b>Company Name:</b> | <b>Product Name:</b> | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b> | <b>Observations:</b> |  |

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|                             |   |    |  |                                     |             |
|-----------------------------|---|----|--|-------------------------------------|-------------|
| Abatement Technologies      | Citrus Pure AS850                       | 50 |  | <input type="checkbox"/>            | Rank = 13.3 |
| Bi-O-Kleen Industries       | Super Stripper - Floor Wax Remover      | 33 |  | <input checked="" type="checkbox"/> | Rank = 2.3  |
| Bi-O-Kleen Industries       | Super Stripper - Floor Wax Remover      | 20 |  | <input checked="" type="checkbox"/> | Rank = 3.3  |
| Bi-O-Kleen Industries       | Soy Lube- SL 100                        | 50 |  | <input type="checkbox"/>            | Rank = 15.7 |
| The Clean Environment Co    | C-8 Cycle Strip                         | 50 |  | <input checked="" type="checkbox"/> | Rank = 9.3  |
| EcoLink                     | Safe Strip                              | 50 |  | <input checked="" type="checkbox"/> | Rank = 8    |
| EnvirOx LLC                 | Grout Safe                              | 50 |  | <input type="checkbox"/>            | Rank = 13.6 |
| Twin Rivers Technologies    | Graffiti Remover                        | 50 |  | <input checked="" type="checkbox"/> | Rank = 5    |
| Finger Lakes Chemical       | FLSC-12 Resineater Sample               | 50 |  | <input checked="" type="checkbox"/> | Rank = 7    |
| Franmar Chemical            | Soy Gel Paint Stripper                  | 50 |  | <input checked="" type="checkbox"/> | Rank = 8.7  |
| Franmar Chemical            | Soy Strip Paint Stripper                | 50 |  | <input checked="" type="checkbox"/> | Rank = 6    |
| Gemtek Products             | Safe Care (SC) Maxi Solv                | 50 |  | <input checked="" type="checkbox"/> | Rank = 9.3  |
| Green Products              | aMAIZEing biobased solvent and stripper | 50 |  | <input type="checkbox"/>            | Rank = 13.7 |
| Inland Technologies Inc     | Citrasafe                               | 50 |  | <input type="checkbox"/>            | Rank = 18.7 |
| Inland Technologies Inc     | EP 921                                  | 50 |  | <input type="checkbox"/>            | Rank = 14   |
| Soysolv Industrial Products | Soysolv industrial solvent              | 50 |  | <input type="checkbox"/>            | Rank = 17.3 |
| Spartan Chemical Company    | Graffiti Remover SAC                    | 50 |  | <input checked="" type="checkbox"/> | Rank = 10   |
| Spartan Chemical Company    | Green Solutions Floor Stripper          | 50 |  | <input checked="" type="checkbox"/> | Rank = 6.7  |
| Vertec BioSolvents          | Ink Zapper                              | 50 |  | <input checked="" type="checkbox"/> | Rank = 8    |

Conclusion: The successful products will now be tested at full strength for both 5 and 10 minutes.