# CLEANING LABORATORY EVALUATION SUMMARY

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|---|---|
| SCL #: | 2021 |
| DateRun: | 03/10/2021 |
| Experimenters: | Ross Goding, Nicole Kebler |
| ClientType: | Cleaner Manufacturer |
| ProjectNumber: | Project #3 |
| Substrates: | Ceramics, Wood, Vinyl Composite Tiles |
| PartType: | Coupon |
| Contaminants: | Hucker's Soil |
| Cleaning Methods: | Manual Wipe |
| Analytical Methods: | Gravimetric, Gloss-Color Meter |
| Purpose: | To evaluate the efficiency for removal of DCC17 from ceramic, vinyl, and wood. |
| Experimental Procedure: | First, a total of 18 coupons were obtained, 9 each for the two supplied cleaners (3 ceramic, 3 vinyl, 3 wood). The initial weights of the tiles were acquired to use as a standard and also determine how much soil was removed after cleaning. The coupons were then soiled using 1.0 gram of DCC-17. The soiled coupons were then allowed to sit over night for 24 hours in order for the soil to settle. The next day, the dry dirty weight was acquired and recorded. We used the specified cleaners to test their effectiveness on all the coupons. The coupons were cleaned as follows. 3 coupons were placed in a straight line within the SLW machine. A Wypall wipe was attached to the cleaning sled and soaked with 2 sprays of the cleaner being used for that run (Pathosans All Purpose cleaner and Pinsol). Each coupon was sprayed 2 times with the same solution. The SLW unit used 20 cycles for cleaning. At the end, the cleaned coupons had their final weights taken and recorded along with efficiencies calculated. |

Results:

| Cleaner | Substrate | Coupon | Initial | Dirty | Clean | Initial wt. of contamination | Final wt. of contamination | % Removal | Average % removal | Product removal |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 | 5 | 58.15 | 59.25 | 58.56 | 1.10 | 0.41 | 62.92 | 69.10 | 89.46 |
| | | 3 | 60.80 | 61.58 | 61.12 | 0.78 | 0.32 | 58.98 | | |
| | | 1 | 57.33 | 58.94 | 57.57 | 1.61 | 0.24 | 85.41 | | |
| | 2 | 4 | 24.89 | 25.66 | 24.91 | 0.77 | 0.02 | 98.01 | 98.22 | |
| | | 5 | 27.51 | 29.01 | 27.54 | 1.51 | 0.04 | 97.63 | | |
| | | 6 | 28.16 | 29.38 | 28.17 | 1.22 | 0.01 | 99.03 | | |
| | 3 | 67 | 51.50 | 52.69 | 51.45 | 1.19 | -0.05 | 104.02 | 101.05 | |
| | | 18 | 52.08 | 53.77 | 52.08 | 1.69 | 0.00 | 99.99 | | |
| | | 64 | 51.01 | 52.57 | 51.02 | 1.56 | 0.01 | 99.14 | | |
| B | 1 | 4 | 58.54 | 59.62 | 58.87 | 1.08 | 0.33 | 69.97 | 68.34 | 89.23 |
| | | 8 | 63.41 | 64.39 | 63.81 | 0.99 | 0.41 | 58.66 | | |
| | | 11 | 60.87 | 61.96 | 61.13 | 1.09 | 0.26 | 76.40 | | |
| | 2 | 7 | 30.14 | 31.38 | 30.15 | 1.24 | 0.01 | 99.32 | 99.18 | |
| | | 9 | 28.85 | 29.63 | 28.86 | 0.78 | 0.01 | 98.57 | | |
| | | 12 | 26.10 | 28.13 | 26.10 | 2.03 | 0.01 | 99.64 | | |
| | 3 | 13 | 51.39 | 52.49 | 51.39 | 1.10 | 0.00 | 99.85 | 100.18 | |
| | | 17 | 53.17 | 54.36 | 53.17 | 1.20 | 0.00 | 99.80 | | |
| | | 63 | 51.98 | 52.63 | 51.97 | 0.65 | -0.01 | 100.90 | | |
| | | | | | | | | | | |
| Cleaner | Substrate | Coupon | Initial | Dirty | Clean | | | | | |
| A | 1 | 5 | 55.66 | 25.78 | 44.27 | | | | | |
| | | 3 | 57.51 | 30.28 | 48.57 | | | | | |
| | | 1 | 55.79 | 29.59 | 49.86 | | | | | |
| | 2 | 4 | 80.82 | 43.08 | 68.77 | | | | | |
| | | 5 | 81.2 | 27.37 | 64.77 | | | | | |
| | | 6 | 79.1 | 47.36 | 65.77 | | | | | |
| | 3 | 67 | 89.71 | 38.55 | 88.92 | | | | | |
| | | 18 | 90.2 | 32.53 | 89.32 | | | | | |
| | | 64 | 89.35 | 41.48 | 89.09 | | | | | |
| B | 1 | 4 | 58.12 | 28.83 | 54.64 | | | | | |
| | | 8 | 56.28 | 31.49 | 47.64 | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 11 | 55.73 | 30.55 | 53.39 | | | | | |
| | 2 | 7 | 79.93 | 41.88 | 61.89 | | | | | |
| | | 9 | 79.59 | 37.1 | 68.19 | | | | | |
| | | 12 | 81.63 | 38.15 | 71.8 | | | | | |
| | 3 | 13 | 88.47 | 43.56 | 88.15 | | | | | |
| | | 17 | 88.99 | 55.82 | 87.65 | | | | | |
| | | 63 | 85.17 | 30.96 | 88.74 | | | | | |

Summary:

| **Substrates:** | Ceramics, Wood, Vinyl Composite Tiles | | | | |
|---|---|---|---|---|---|
| **Contaminants:** | Hucker's Soil | | | | |
| **Company Name:** | **Product Name:** | **Conc.:** | **Efficiency:** | **Effective:** | **Observations:** |
| PathoSans | PathoClean | 100 | 89.46 | ☑ | |
| Clorox Company | Pine Sol | 100 | 89.23 | ☑ | |

Conclusion:

Both cleaners average cleaning efficiencies were recorded. They both have the same percentage of cleaning efficiency with a percentage of 89%. From the observed wood coupons, the slant of the wood may have influenced the poor cleaning ability by the SLW machine. The products tested meet the satisfactory cleaning rating which is 85%. Since both cleaners were above this level, they did a great job at removing the soil.