

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2018  
 DateRun: 11/13/2018  
 Experimenters: Othon Pagounes, Lily Green  
 ClientType: Cleaner Manufacturer  
 ProjectNumber: Project #15  
 Substrates: Ceramics, Stainless Steel, Porcelain  
 PartType: Part  
 Contaminants: Food  
 Cleaning Methods: Manual Wipe  
 Analytical Methods: Gravimetric, Visual  
 Purpose: To evaluate the soil removal performance of Jenny Oven Cleaner & Rejoice Oven Cleaner cleaning products.

Experimental Procedure: The tests were performed on artificially applied soils on ceramic, stainless steel, and porcelain substrates. Each experiment was based on the guidance from CSPA DCC-12 Screening the Efficacy of Oven Cleaners. Soil B from the standard was made using 85.4 wt.% butter, 6.5 wt. % sugar, 4.3 wt.% deionized water and 3.4 wt.% flour. The sugar was dissolved in water between 75 and 95 F. Then at room temperature or above, the softened butter was added to the solution and mixed thoroughly. Flour was added to the mixture and stirred until a uniform mixture was obtained. A uniform weight was applied to each of the eighteen pre-weighed coupons. The coupons were then covered with aluminum foil to prevent air currents from disturbing the soil film during baking. The soil was aged in a preheated 475°F for two hours. Once coupons were cooled to room temperature, dirty weights were recorded. Cleaning was performed following the instructions on the supplied product. The product was sprayed onto the surface of the coupons and allowed to soak for two hours and then put into the SLW (Straight Line Washing) Unit to be wiped cleaned during 20 cycles. Final weights were recorded and effectiveness was calculated. The experiment was performed again to test the two cleaners, but with a soil aging time of 15 minutes, instead of two hours.

Results: Test 1

| Soil Aging Time | Cleaner              | Substrate       | Initial wt of cont. | Final wt of cont. | %Cont Removed | % Average | % Overall Cleaner |
|-----------------|----------------------|-----------------|---------------------|-------------------|---------------|-----------|-------------------|
| 2 hours         | Jenny Oven Cleaner   | Stainless Steel | 0.3280              | 0.2942            | 10.30         | 41.27     | 67.46             |
|                 |                      |                 | 0.5737              | 0.3373            | 41.21         |           |                   |
|                 |                      |                 | 0.5658              | 0.1567            | 72.30         |           |                   |
|                 |                      | Ceramic         | 0.4959              | 0.0984            | 80.16         | 72.46     |                   |
|                 |                      |                 | 0.2780              | 0.0436            | 84.32         |           |                   |
|                 |                      |                 | 0.2281              | 0.1074            | 52.92         |           |                   |
|                 | Porcelain            | 0.5117          | 0.1066              | 79.17             | 88.66         |           |                   |
|                 |                      | 0.3851          | 0.0291              | 92.44             |               |           |                   |
|                 |                      | 0.6076          | 0.0343              | 94.35             |               |           |                   |
|                 | Rejoice Oven Cleaner | Stainless Steel | 0.4364              | 0.2738            | 37.26         | 23.97     | 60.95             |
|                 |                      |                 | 0.4912              | 0.4736            | 3.58          |           |                   |
|                 |                      |                 | 0.4314              | 0.2974            | 31.06         |           |                   |
| Ceramic         |                      | 0.2362          | 0.0771              | 67.36             | 60.41         |           |                   |
|                 |                      | 0.5836          | 0.1742              | 70.15             |               |           |                   |
|                 |                      | 0.2623          | 0.1476              | 43.73             |               |           |                   |
| Porcelain       |                      | 0.6599          | -0.0003             | 100.05            | 98.47         |           |                   |
|                 |                      | 0.5410          | 0.0118              | 97.82             |               |           |                   |
|                 |                      | 0.4375          | 0.0107              | 97.55             |               |           |                   |

Test 2

| Soil Aging Time | Cleaner            | Substrate       | Initial wt of cont. | Final wt of cont. | %Cont Removed | % Average | % Overall Cleaner |
|-----------------|--------------------|-----------------|---------------------|-------------------|---------------|-----------|-------------------|
| 15 minutes      | Jenny Oven Cleaner | Stainless Steel | 0.2688              | 0.1552            | 42.26         | 72.80     | 66.87             |
|                 |                    |                 | 0.2997              | 0.0262            | 91.26         |           |                   |
|                 |                    |                 | 0.2369              | 0.0358            | 84.89         |           |                   |
|                 | Ceramic            | 0.3392          | 0.0776              | 77.12             | 73.94         |           |                   |

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|  |                            |                    |        |        |       |       |       |
|--|----------------------------|--------------------|--------|--------|-------|-------|-------|
|  |                            |                    | 0.3818 | 0.1033 | 72.94 |       |       |
|  |                            |                    | 0.2477 | 0.0700 | 71.74 |       |       |
|  |                            | Porcelain          | 0.3617 | 0.1421 | 60.71 | 53.86 |       |
|  |                            |                    | 0.2945 | 0.1389 | 52.84 |       |       |
|  |                            |                    | 0.5081 | 0.2640 | 48.04 |       |       |
|  | Rejoice<br>Oven<br>Cleaner | Stainless<br>Steel | 0.1636 | 0.0269 | 83.56 | 62.40 | 63.29 |
|  |                            |                    | 0.2238 | 0.1244 | 44.41 |       |       |
|  |                            |                    | 0.2555 | 0.1042 | 59.22 |       |       |
|  | Ceramic                    |                    | 0.3221 | 0.1271 | 60.54 | 65.59 |       |
|  |                            |                    | 0.2228 | 0.1027 | 53.90 |       |       |
|  |                            |                    | 0.3169 | 0.0560 | 82.33 |       |       |
|  | Porcelain                  |                    | 0.3617 | 0.0540 | 85.07 | 63.29 |       |
|  |                            |                    | 0.2945 | 0.1417 | 51.88 |       |       |
|  |                            |                    | 0.5081 | 0.2393 | 52.90 |       |       |

Summary:

|                      |                                      |               |                    |                          |                      |
|----------------------|--------------------------------------|---------------|--------------------|--------------------------|----------------------|
| <b>Substrates:</b>   | Ceramics, Stainless Steel, Porcelain |               |                    |                          |                      |
| <b>Contaminants:</b> | Food                                 |               |                    |                          |                      |
| <b>Company Name:</b> | <b>Product Name:</b>                 | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b>        | <b>Observations:</b> |
| Brand Buzz           | Jenny Oven Cleaner                   | 100%          | 67.46              | <input type="checkbox"/> |                      |
| Brand Buzz           | Rejoice Oven Cleaner                 | 100%          | 60.95              | <input type="checkbox"/> |                      |

Conclusion:

The two cleaners, Jenny Oven Cleaner and Rejoice Oven Cleaner, removed about 60-70% of the soil when aged for 15 minutes and 2 hours. The two cleaners did not demonstrate a significant difference in removing the DCC-12 soil affected by the time of the aging of soil in the oven.