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Cleaning Performance Testing using CSPA DCC-17

Prepared for

Process Cleaning Solutions
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CGSB Laboratory Acceptance Program

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Scope: The purpose of this study is to compare the cleaning performance and speed of cleaning of commercial all purpose cleaners.

Standards: CSPA DCC-17 Greasy Soil Test Method for Evaluating Spray-and-Wipe Cleaners Used On Hard, Non-Glossy Surfaces

Products Tested:

Product	LC#	Date Received	Lot#
PCS Peroxy MicroClean Concentrate Formula A	22-T0446	May 6, 2022	851073605414

Equipment Used: BYK Gardner 5060 Washability Machine
Hunter Labs Mini-Scan Colorimeter
Paint roller
Cheesecloth wipes
Cellulose Sponges
Latex Paint – flat
Binder clip
Caron 6010 Environmental Test Chamber

Materials: Soil Components:
Vegetable Shortening
Lard
Vegetable oil
Carbon Black

Procedure: Panel Preparation
Double-coat masonite tiles with latex paint using a paint roller, and allow to set overnight. Cure tiles at 50°C and 50% humidity for 24 hours.

Soil Application
Blend a melt of 33 grams of vegetable shortening, 33 grams of lard and 33 grams of vegetable oil with one gram carbon black on a steam bath. Prepare fresh soil each day. Fold the cheesecloth in half several times to end up with a 2.5 x 2 inch piece. Put the binder clip on the open 2.5 inch long edge of the folded cheesecloth. Using the clip as a handle, soak the cheesecloth in the hot soil and apply the soil to the white-painted masonite wallboard tiles using six strokes. The soil temperature should be maintained and the soil should be stirred throughout the application process. Allow the soiled substrate to dry overnight at





room temperature.

Colorimeter Measurements

After proper calibration of the Huntercolorimeter, set its data processor to L mode. For this test it is only necessary to use the “L” value. Read the reflectance of panels before soiling (R₀), after soiling (R_s), and after cleaning (R_c) by taking three readings per panel perpendicularly across the grain of the test area.

Cleaning test

The product is diluted with unheated tap water as per the label directions. Use a clean sponge conditioned with 150ppm water for each cleaning procedure. Weigh 15 grams of liquid cleaner onto a watch-glass and apply a clean, damp sponge to absorb the test solution. Sponge and holder weigh about 350 grams. Place sponge so that the manufactured edge is the scrubbing surface. Place the tile in the apparatus so that scrubbing action is perpendicular to the direction of the soiling. Set the test apparatus to cycle for five cycles. Operate the wash apparatus over one of the soiled areas. Shift the scrubber table and repeat the washing test over the remaining soiled area with additional detergent and a cleaned sponge.

Evaluation

$$\% \text{ Cleaning Efficiency} = (R^c - R^s)/(R^o - R^s) \times 100$$

Where R^c = cleaned reflectance
R^o = original reflectance
R^s = soiled reflectance

Results:

Sample	Dilution (unheated tap water)	Avg. %C.E.
PCS Peroxy MicroClean Concentrate Formula A	32:1	89.3





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