

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2027

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ClientType: Cleaner Manufacturer

ProjectNumber: Project #5

Substrates: Carpet

PartType: Coupon

Contaminants: Greases, Food

Cleaning Methods: Manual Wipe

Analytical Methods: Visual

Purpose: Evaluating the efficacy of DX-50 formulations against a market comparative in the removal of various stains from a standard tufted pile carpet

Experimental Procedure: Three almond white tufted cut pile test carpet measuring 12 inch by 4 inch were stained with eight staining agents. Each staining agent was applied to the test carpet and spaced out by an inch. The staining agent was applied to the surface using a swab that created a saturated circle that measured approximately 1.5 inches wide by 1.0 inches high.

The eight staining agents included mustard, catsup, coffee, grape juice, black permanent marker (directly applied), dirty motor oil, AATCC synthetic soil and chocolate syrup. These staining agents were used according to the dilution ratios listed in the table below.

Staining Agent	Dilution ratio
Mustard	1:2 mustard:water
Catsup	1:3 catsup:water
Hot Coffee 60 deg +/-3C	1 teaspoon coffee to 175 ml water
Purple Grape Juice	Full concentration
Black Permanent Marker (Chisel Point)	N/A
Dirty Motor Oil	1:1 oil:heptane
AATCC Synthetic Soil	0.5 grams/100 ml water
Chocolate Syrup	1:4 chocolate:water

The three completed test carpets were allowed to dry for 24 hours +/- 2 hours before conducting the stain removal procedure. The two DX-50 formulations were prepared in a 1:16 ratio of concentrate to water as per client instructions, and the Consumer Nature's Way comparative product was prepared in a 1:20 ratio of concentrate to water as per written instructions on the bottle. The cleaning agents were then transferred into separate spray bottles. Each cleaning agent was applied to the surface so that the stain was saturated (3-4 sprays). The solution was allowed to sit on the stain for 2 minutes. The saturated stain was blotted with a clean dry Kimberly Clark Reinforced Wypall. Blotting continued until all evidence of liquid transfer was gone. Following this, pictures were taken and cleanliness ratings noted. Then, the stains were then again sprayed 3-4 times, scrubbed with a wire brush for 20-30 seconds, and covered with wet towels in accordance with manufacturer use instructions. The carpets were then allowed to sit for approximately 24 hours before being given final cleanliness ratings. These cleanliness ratings followed the scale below:

- 1 - Severe Stain
- 2 - Considerable Stain
- 3 - Noticeable Stain

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4 - Slight Stain

5 - No stain

Results:

Cleaner	Contaminant	1st Clean			
		1st Panelist	2nd Panelist	3rd Panelist	Average
Consume Nature's Way	Mustard	2	3	3	1.9
		1	2	2	
		1	2	2	
	Catsup	2	3	4	2.6
		2	2	3	
		2	3	3	
	Hot Coffee	3	4	5	3.6
		4	3	4	
		3	3	4	
	Grape Juice	3	3	4	3.3
		3	3	4	
		3	3	4	
	Permanent Marker	1	1	1	1.0
		1	1	1	
		1	1	1	
	Dirty Motor Oil	2	4	5	3.6
		3	4	5	
		2	4	5	
	AATCC Synthetic soil	3	3	4	3.4
		3	3	4	
		3	4	4	
	Chocolate Syrup	2	3	3	2.6
		2	3	3	
		2	3	3	
DX-50 Ecologo	Mustard	1	2	3	1.9
		1	2	3	
		1	3	3	
	Catsup	2	3	4	3.0
		2	3	3	
		3	4	4	
	Hot Coffee	4	4	4	4.3
		4	4	4	
		5	5	5	
	Grape Juice	3	3	4	2.6
		2	2	3	
		2	2	3	
	Permanent Marker	1	1	1	1.0
		1	1	1	
		1	1	1	
	Dirty Motor Oil	3	3	4	3.3
		3	3	4	
		3	3	4	
	AATCC Synthetic soil	3	2	4	3.0
		3	2	4	
		3	3	4	
	Chocolate Syrup	3	4	4	2.6
		1	2	3	
		2	3	3	
DX-50 Green Seal	Mustard	1	2	3	1.8
		1	2	3	
		1	2	3	
	Catsup	3	3	4	3.3
		3	3	3	
		3	4	4	

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Hot Coffee	4	4	4	4.2
	5	4	4	
	4	4	5	
Grape Juice	4	4	4	3.9
	3	4	4	
	4	4	4	
Permanent Marker	1	1	1	1.0
	1	1	1	
	1	1	1	
Dirty Motor Oil	4	4	5	4.2
	3	4	5	
	4	4	5	
AATCC Synthetic soil	4	3	4	3.5
	4	2	4	
	4	3	4	
Chocolate Syrup	2	2	3	1.8
	1	2	3	
	1	1	3	

Summary:

Substrates:	Carpet				
Contaminants:	Greases, Food				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Daycon	DX-50, Mal-odor & Stain Remover	1:16	0.00	☐	
NaturesWay	NaturesWay Carpet Cleaner	1:10	0.00	☐	

Conclusion:

Of the three cleaners tested, Consume nature's way was most effective in terms of a total average, with an average cleanliness rating of 2.8. This was followed by the DX-50 Green Seal formulation with a score of 2.5, with the DX-50 Eco-logo formulation having the lowest cleanliness score with a rating of 2.4. When looking at specific soil performance, all of the cleaner formulations were more or less completely unsuccessful in removing the permanent marker, mustard, or chocolate syrup. Consumer nature's way had a score of 1.8 and 1.1 for mustard and permanent marker, respectively. The Eco-Logo formulation had a score of 1.3 and 1.0 for the mustard and permanent marker, and the Green Seal formulation had a score of 1.6 and 1.0 for the mustard and permanent marker. All three cleaners excelled in removing the Dirty Motor Oil, with scores of 4.6, 4.0, and 4.3 for the consume nature's way, eco-logo, and green seal formulations respectively. Consume Nature's way had a much better score than both the eco-logo and green seal formulations for removal of grape juice, with an average score of 4.2, with eco-logo and green seal having average scores of 2.6 and 3.4 respectively. Overall, the three products performed similarly in what areas they were not effective, namely in removal of mustard and permanent marker stains.