CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2025
DateRun:	02/26/2025
Experimenters:	Alicia McCarthy, Tatyanna Moreland Junior, Alexander Symko, Cindy McClaughlin, Alex Joga
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Other
PartType:	Coupon
Contaminants:	Odor
Cleaning Methods:	Low Pressure Spray
Analytical Methods:	Visual, Smell
Purpose:	Evaluating the efficacy of pet stain and odor removal products at removing malodor and stains from cotton and polyester substrates
Experimental Procedure:	For each product, three fabric coupons of each substrate type (cotton and polyester) were prepared, along with two control samples—one for each substrate type. The malodor soil used in this test was a 37°C, 24-hour incubated RJ yeast soil, consisting of ¼ tsp Tryptic Soy Broth, ¼ tsp artificial sebum, ¼ tsp dry yeast, 1 tsp cream cheese, and ½ tsp yeast nutrient. The soil was applied directly to the fabric coupons using a swab. Each soiled fabric sample was then placed inside a glass bottle with a screw-top lid and allowed to age for 24 hours to develop the malodor. After aging, four panelists assessed the malodor using a quantitative odor scale ranging from 1 to 5, defined as follows: 1: No malodor/slight stain visible (odor-free/clean, no discoloration) 2: Slight malodor/faint stain (barely perceptible odor/light stain) 3: Moderate malodor/noticeable stain (noticeable odor/visible stain) 4: Stronger malodor/prominent stain (unpleasant odor/stain covering a significant area) 5: High malodor/very stained (overpowering odor/heavy and extensive stain) Each malodor sample was evaluated before treatment, and the ratings were recorded. The odor remover was then applied as two sprays per treatment cycle, and panelists assessed the malodor after each cycle. This process was repeated twice, resulting in two full treatment cycles (four sprays total). After the second treatment, the bottles were capped and placed in an incubator at 37°C for two hours to evaluate any additional malodor reduction. The same four panelists reassessed the malodor after the incubation period and recorded a rating. A final treatment cycle (two additional sprays, for a total of six sprays) was then applied, followed by a final malodor assessment. For the stain test, initial ratings were recorded before applying two sprays of the product and wiping with five quick strokes using a WypAll wipe. The samples were then air-dried before the treated ratings were taken. Based on the qualitative panel criteria, a product to be considered effective if it scores better than the level 3 (1 or 2).

CLEANING LABORATORY EVALUATION SUMMARY

Results: Malodor Ratings

ServeCo Fabric Freshener

Results

Substrate	Treatment (total # of sprays)	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Rating Average between Panelists	Average Rating by Substrate
Cotton	Untreated	2	3	3	2	2.50	2.75
		1	3	5	2	2.75	
		2	3	5	2	3.00	
Polyester		3.5	4	5	3	3.88	4.04
		4	4	5	3	4.00	
		4	4	5	4	4.25	
Cotton	2 Sprays	3	1	5	3	3.00	3.00
		3	4	4	1	3.00	
		2	2	5	3	3.00	
Polyester		2	2	4	1.5	2.38	2.75
		4	3	4.5	2	3.38	
		3	2	3	2	2.50	
Cotton	4 Sprays	3	2	3.5	2	2.63	2.42
		3	2	2	1.5	2.13	
		3.5	2	2	2.5	2.50	
Polyester		2	2	4.5	1.5	2.50	2.79
		3	2	4	2	2.75	
		4	2	4	2.5	3.13	
Cotton	Rest (2 Hours)	2	2	3	3	2.50	2.42
		1.5	2	3	2.5	2.25	
		3	2	3	2	2.50	
Polyester		3	2	3	2	2.50	2.67
		4	3	2.5	1.5	2.75	
		2.5	3	3	2.5	2.75	
Cotton	6 Sprays	3.5	3	4	1.5	3.00	2.50
		2	3	2	1.5	2.13	
		2	3	2	2.5	2.38	
Polyester		3	2	3.5	1	2.38	2.58
		3	3	3.5	2	2.88	
		3	2	3	2	2.50	

CLEANING LABORATORY EVALUATION SUMMARY

Malodor Ratings Continued

Product: Guardsman Stain & Odor Eliminator

Results

Substrate	Treatment (total # of sprays)	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Rating Average between panelists	Average Rating by Substrate
Cotton	Untreated	2	3	4	2	2.75	3.04
		3.5	3	3.5	2.5	3.13	
		2	3	5	3	3.25	
Polyester		4	4	5	3.5	4.13	4.04
		4	4	4	4	4.00	
		3	5	5	3	4.00	
Cotton	2 Sprays	3	2	1	1.5	1.88	1.79
		1	1	1.5	1	1.13	
		1	4	3	1.5	2.38	
Polyester		1	2	3.5	2	2.13	1.67
		2	1	1	1	1.25	
		1	1	3	1.5	1.63	
Cotton	4 Sprays	2	2	1	1	1.50	1.38
		1	2	2	1	1.50	
		1.5	1	1	1	1.13	
Polyester		2.5	2	1	1.5	1.75	1.46
		1	2	1.5	1	1.38	
		2	1	1	1	1.25	
Cotton	Rest (2-Hours)	2	2.5	1	1	1.63	1.63
		2	2	1	1	1.50	
		3	2	1	1	1.75	
Polyester		1	4	1.5	2	2.13	2.08
		2	4	1	1.5	2.13	
		4	1	1	2	2.00	
Cotton	6 Sprays	1.5	1.5	1	1	1.25	1.25
		1.5	1.5	1	1	1.25	
		1	2	1	1	1.25	
Polyester		1	1.5	1	1	1.13	1.38
		2	1.5	2	1	1.63	
		1.5	2	1	1	1.38	

CLEANING LABORATORY EVALUATION SUMMARY

Stain Removal Visual Ratings

Product: ServeCo Fabric Freshener

Results

Substrate	Treatment (total # of sprays)	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Rating Average between Panelists	Average Rating by Substrate
Cotton	Untreated	5	5	5	5	5.00	5.00
		5	5	5	5	5.00	
		5	5	5	5	5.00	
Polyester		5	5	5	5	5.00	5.00
		5	5	5	5	5.00	
		5	5	5	5	5.00	
Cotton	Treated	1.5	1.5	1	1	1.25	1.42
		1.5	1.5	1.5	1.5	1.50	
		1.5	1.5	1.5	1.5	1.50	
Polyester		4	3.75	4	3	3.69	3.67
		4	3.75	4	3	3.69	
		4	3	4	3.5	3.63	

Product: Product: Guardsman Stain & Odor Eliminator

Results

Substrate	Treatment (total # of sprays)	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Rating Average Panelists	Average Rating by Substrate
Cotton	Untreated	5	5	5	5	5.00	5.00
		5	5	5	5	5.00	
		5	5	5	5	5.00	
Polyester		5	5	5	5	5.00	5.00
		5	5	5	5	5.00	
		5	5	5	5	5.00	
Cotton	Treated	2	1.5	2	3	2.13	1.88
		1.5	1.5	1.5	2	1.63	
		2	1.5	1.5	2.5	1.88	
Polyester		4.5	4.5	3.5	3.5	4.00	4.04
		4.5	4.5	4	3.5	4.13	
		4.5	4.5	4	3	4.00	

The ServeCo Fabric Freshener peaked in efficacy on the cotton substrate after four sprays and again after the two-hour incubation period, achieving a score of 2.42. On the polyester substrate, its best efficacy was observed after six sprays, with a score of 2.58.

The Guardsman Stain & Odor Eliminator consistently had lower (better) scores, peaking in efficacy on the cotton substrate with a score of 1.25 after six sprays, and on the polyester substrate with a score of 1.38 after six sprays.

In stain removal testing, the ServeCo Fabric Freshener was more effective than Guardsman Stain & Odor Eliminator, achieving lower (better) scores of 1.42 on cotton and 3.67 on polyester, compared to Guardsman's higher (worse) scores of 1.88 on cotton and 4.04 on polyester.

Based on our qualitative panel criteria (listed above), a product would be considered to be effective if it scores better than the level 3. The supplied ServeCo product was effective on the odor removal for the cotton fabric. The overall product effectiveness over the 2 fabrics would be just under 3 resulting in the product meeting the effective criteria.

Summary:

Substrates:	Other				
Contaminants:	Odor				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Guardsman Protection Products	Stain and Odor Eliminator	100%		☑	Malodor Reduction
ServeCo North America	ServeCo Fabric Freshener	100%		☑	Stain Removal was better than comparative product

Conclusion:

ServeCo Fabric Freshener was more effective than Guardsman Stain & Odor Eliminator in stain removal but was less effective in malodor reduction, as Guardsman consistently achieved lower (better) odor scores. For malodor assessment, the ServeCo product would be considered effective as the average assessment on the two fabrics was just under 3, resulting in the product meeting the lab's effective level.

CLEANING LABORATORY EVALUATION SUMMARY