CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2025
DateRun:	02/02/2025
Experimenters:	Alicia McCarthy, Alexander Symko, Amelia Wagner, Cindy McClaughlin, Alex Joga
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Textile
PartType:	Coupon
Contaminants:	Odor
Cleaning Methods:	Low Pressure Spray
Analytical Methods:	Visual, Smell
Purpose:	Evaluating the efficacy of ServeCo Pet Stain & Odor Removal against Guardsman Stain & Odor Eliminator at removing cat urine malodor and stains from cotton and polyester swatches.
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 cat urine, applied directly to the fabric coupons. Each treated 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. A 2-inch (+/- 0.5-inch) circular stain was formed on one side of the fabric. The stain was then aged for an additional two days to allow it to fully set and to ensure an initial malodor rating of 5 (overpowering odor). A panel of four trained evaluators 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. The odor remover was then applied as two sprays per treatment cycle. Panelists assessed the malodor after each cycle, and this process was repeated two times for a total of four sprays (two full treatment cycles). After the second treatment, the bottles were capped and left to sit overnight to see if the product treatment improved and reduced malodor. After the same four panelists reassessed the malodor for, a final treatment of two sprays (a total of 6 sprays) was applied, followed by a final malodor assessment. For the stain test, coupons were soiled using the same method, using the same substrate preparation and application method, and were left on a tray overnight to dry and let the stain set. The rating guidelines described above were applied to assess the untreated stain intensity. After a single treatment (2 sprays) and wiping of the surface using a Wypall cloth, three panelists rated the stain removal effectiveness.

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Results: Malodor Ratings

Controls:

Substrate	Overall Average Ratings
Cotton	4.54
Polyester	4.72

Product: Serveco Pet Stain & Odor Remover

Substrate	Treatment (total # of sprays)	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Rating Average between panelists	Average Rating by Substrate
Cotton	Untreated	4.5	5	5	4	4.63	4.25
		4.5	5	5	5	4.88	
		4.5	2.5	3	3	3.25	
Polyester		4.8	5	5	3	4.45	4.44
		4.5	3	5	5	4.38	
		4.5	5	4.5	4	4.50	
Cotton	2 Sprays	3	2	3.5	2	2.63	2.29
		2	2.5	3	1.5	2.25	
		1.5	2	4	2	2.38	
Polyester		1.5	1.5	2	1	1.50	2.00
		2	2	1.5	1.5	1.75	
		2	2.5	3	3.5	2.75	
Cotton	4 Sprays	3	3	2.5	1	2.38	1.88
		1.5	2	3	1.5	2.00	
		1.5	1.5	1	1	1.25	
Polyester		1	1.5	1	1	1.13	1.55
		1.5	3	2.5	1.5	2.15	
		1	2	1.5	1	1.38	
Cotton	Overnight	4	3.5	4	1.5	3.25	3.16
		3	3.5	4.5	3	3.50	
		2	3.5	3.5	2	2.75	
Polyester		2	2	4.5	1	2.38	2.54
		2.5	3	3.5	2	2.75	
		2.5	3	2.5	2	2.50	
Cotton	6 Sprays	4	4.5	4	1	3.38	2.95
		2.5	3	4	2	2.88	
		4	2	3	1.5	2.63	
Polyester		2	3.5	1.5	3.5	2.63	2.75
		1	1	2	1	2.75	
		4.5	3	4.5	1.5	2.88	

CLEANING LABORATORY EVALUATION SUMMARY

Malodor Ratings Continued

Product: Guardsman Stain and Odor Eliminator

Substrate	Treatment (total # of sprays)	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Rating Average between panelists	Average Rating by Substrate
Cotton	Untreated	4.5	3	3.5	4	3.75	4.16
		4	3	5	3.5	3.875	
		4.5	5	5	5	4.875	
Polyester		4.5	5	5	3.5	4.50	4.54
		4	5	4	4	4.25	
		5	4.5	5	5	4.88	
Cotton	2 Sprays	3	1	2	2	2.00	2.63
		2	3	3.5	1.5	2.50	
		3	4.5	3	3	3.375	
Polyester		2.5	1	3.5	1.5	2.13	2.45
		3.5	3	2	1.5	2.50	
		3	3.5	3	1.5	2.75	
Cotton	4 Sprays	1	1.5	2.5	2	1.75	2.16
		2.5	1.5	1.5	2.5	2.00	
		3	2.5	2.5	3	2.75	
Polyester		1.5	1.5	4	1.5	2.13	2.50
		1.5	2.5	3.5	1.5	2.25	
		3	3	4.5	2	3.13	
Cotton	Overnight	2	1.5	4.5	4	3.00	3.33
		3.5	2.5	5	3	3.50	
		3.5	2.5	5	3	3.50	
Polyester		1.5	1.5	4.5	2	2.38	2.88
		3	2.5	4	3	3.13	
		4	2	5	1.5	3.13	
Cotton	6 Sprays	3	1.5	3	2	2.38	3.15
		2	4	2	3	2.75	
		4.5	4	5	3.5	4.25	
Polyester		1	1.5	2	1.5	1.50	2.33
		3.5	3.5	3	2	3.00	
		2.5	3.5	2	2	2.50	

CLEANING LABORATORY EVALUATION SUMMARY

Stain Removal Visual Ratings

Product: Serveco Pet Stain & Odor Remover

Substrate	Treatment (total # of sprays)	Panelist 1	Panelist 2	Panelist 3	Rating Average	Average Rating by Substrate
Cotton	Untreated	4.5	5	4	4.50	4.16
		4	5	3	4.00	
		4	5	3	4.00	
Polyester		4	4	4.5	4.17	4.16
		4.5	4	4.5	4.33	
		4.5	4	4.5	4.33	
Cotton	2 Sprays	3	3.5	3.5	3.33	3.55
		4	3.5	3.5	3.66	
		4	3.5	3.5	3.66	
Polyester		4	3.5	3.5	3.66	2.38
		2	2	1.5	1.83	
		2	1.5	1.5	1.66	

Product: Guardsman Stain and Odor Eliminator

Substrate	Treatment (total # of sprays)	Panelist 1	Panelist 2	Panelist 3	Rating Average	Average Rating by Substrate
Cotton	Untreated	4	4	4	4.00	3.77
		4	3	3	3.66	
		4.5	3.5	3	3.66	
Polyester		4	4	4.5	4.16	4.27
		4.5	4	4.5	4.33	
		4.5	4	4.5	4.33	
Cotton	2 Sprays	3	3	3	3.00	2.99
		3	3.5	3	3.16	
		2.5	3	3	2.83	
Polyester		2.5	1	1.5	1.66	2.10
		2.5	3	3	2.83	
		2	2	1.5	1.83	

ServeCo Pet Stain & Odor Remover consistently showed lower (better) malodor ratings compared to Guardsman Stain and Odor Eliminator after 4 sprays. This aligns with the conclusion that ServeCo was more effective in eliminating malodor. ServeCo still had lower (better) malodor ratings than Guardsman, reinforcing its efficacy for long-term odor control. Even after 6 sprays, ServeCo continued to outperform Guardsman in malodor reduction. ServeCo Pet Stain & Odor Remover had a higher rating (worse stain retention) on both cotton and polyester substrates compared to Guardsman. Guardsman Stain and Odor Eliminator had lower (better) scores, meaning it was more effective at removing stains, especially on cotton. For stain removal on polyester, the difference in efficacy was marginal when it came to cat urine stains on polyester.

Summary:

Substrates:	Textile				
Contaminants:	Odor				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
ServeCo North America	ServeCo Pet Stain & Odor Remover	100%		☑	
Guardsman Protection Products	Stain and Odor Eliminator	100%		☑	

Conclusion:

ServeCo Pet Stain & Odor Remover was more effective than Guardsman Stain & Odor Eliminator at reducing cat urine malodor on cotton and polyester. I was as effective as Guardsman at removing cat urine stains from polyester, though Guardsman Stain & Odor Eliminator performed better on cotton substrates.