CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 10/27/2023

Experimenters: Tatyanna Moreland Junior, Alexander Symko, Amelia Wagner

ClientType: Cleaner Manufacturer

ProjectNumber: Project #5

Substrates:

PartType: Coupon

Contaminants: Odor

Cleaning Methods: Immersion/Soak

Analytical Methods: Smell

Purpose: To evaluate the efficacy of two of Pathosans's products in their ability to reduce malodor compared to another product on the market.

Experimental Procedure: Ten clean 250 milliliters (ml) glass bottles, three per product and one control, were filled with six milliliters of spoiled milk. Three bottles were treated for each supplied product mixture for a total of three treatment cycles, with each treatment cycle consisting of two sprays of the respective product directly into the bottle. Following each treatment cycle, the bottles were swirled around so the cleaner mixed with the spoiled milk. The control bottle did not receive any treatment. Three panelists rated the malodor of the milk after each treatment cycle using the following rating key:

Rating	Description
1	No malodor
2	Slight malodor
3	Noticeable malodor
4	Strong malodor
5	Very strong malodor

An effective product needs to have an average rating of two or one. Each bottle, including the control, had to be rated a five before starting the test. After the first and second treatments, the bottles sat at room temperature to evaluate if there was an increase in malodor after 24 hours. Panelists rated the malodor of the urine after the overnight aging of the urine bottles before spraying a third and final treatment into the bottles for a final rating.

Results:

Product	Bottle	Initial	Spray 2	Spray 4	Spray 6	Overnight	Spray 2
ECA Odor Remover 2.0	A	5	4	3.3	4.3	5	1
	B	5	3.1	1.8	1	5	1.5
	C	5	3.7	2	1.3	4.8	1.8
Natures Miracle Odor Eliminator	D	5	2.5	2.5	1.8	1.3	1.8
	E	5	4	1.7	1.7	1.8	2
	F	5	2.3	3.8	3.3	2	2.3
ECA Odor Remover 1.0	G	5	1	1	1	2.3	1
	H	5	4	4	2.3	2.8	1.5
	I	5	4.3	2.7	4	3	1
Control	J	5	5	5	5	5	5

Product	Initial	Spray 2	Spray 4	Spray 6	Overnight	Spray 2
ECA Odor Remover 2.0	5	3.6	2.4	2.4	4.9	1.4
Natures Miracle Odor Eliminator	5	2.9	2.7	2.7	3.4	2
ECA Odor Remover 1.0	5	3.1	2.6	2.6	2.7	1.2

CLEANING LABORATORY EVALUATION SUMMARY

Control	5	5	5	5	5	5

Summary:

Conclusion:

The comparative product, Natures Miracle, was more effective in reducing odor after the first treatment cycle than both of the Pathosans products. After the second treatment cycle, all products' efficacy in reducing malodor were equal but could not be considered effective products due to their rankings above 2.

The ECA Odor Remover 2.0 was not effective in holding the reduction in malodor overnight. The ECA Odor Remover 1.0 was effective in holding the reduction in malodor overnight and performed better than the comparative product.

Both the ECA Odor Remover 2.0 and the ECA Odor Remover 1.0 were more effective in reducing malodor than the comparative product in the last treatment cycle.

Overall, it can be concluded that the ECA Odor Removers are not effective with only one treatment cycle but become effective with at least two treatment cycles.