CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2015
DateRun:	07/01/2015
Experimenters:	Loc Nguyen, George Liang, Alicia Melvin, Michael McDermott
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Liquid
PartType:	Coupon
Contaminants:	Odor
Cleaning Methods:	Low Pressure Spray
Analytical Methods:	Smell
Purpose:	To evaluate supplied products for malodor elimination
Experimental Procedure:	Clean carpet was cut into sixteen 2 in x 4 in rectangular strips. A panel of three then examined the odors to determine the baseline values using seven bottles, including a control. These strips were placed into glass bottles and the cat urine was directly applied to the carpet to determine baseline dirty odor characteristics. Each panelist was asked to describe the odor and rank the level of intensity of the malodor. After the panelists observed the initial odors, bottles were recapped and allowed to sit overnight for three days. After aging the contaminated carpets; each bottle was subjected to rounds of cleaning agent treatments and each panelist was used to assess malodor levels after each cycle of treatment. Two sprays of the cleaning agent consist as one cycle of treatment. After treatment it was allowed to sit for three hours before the panelist were allowed to reevaluate the contaminated bottles. The ranking of malodor level is as follows: 1 being close to no smell of malodor to 5 being the worse malodor level. Then the malodor was allowed to sit overnight to determine if there was any change of malodor levels. If there is a high increase in malodor level that results in a malodor level of 2 and higher; an additional spray of treatment is applied onto the carpet to see if the cleaning agent can eliminate the increased malodor from the overnight sit. Chemistries Evaluated: BioMystic, BioMystic 5x, BioMystic Unscented, E-50, Shout Pets

Results:

Cleaner	BioMystic	Original		Average
Bottle 1	5.0	5.0	4.0	4.7
Bottle 2	5.0	5.0	5.0	5.0
Bottle 3	5.0	5.0	5.0	5.0
				% Average: 4.9
Cleaner	BioMystic	Sprays: 2		Average
Bottle 1	5.0	4.0	4.5	4.5
Bottle 2	3.0	4.0	3.5	3.5
Bottle 3	3.0	4.0	2.5	3.2
				% Average: 3.7
Cleaner	BioMystic	Sprays: 4		Average
Bottle 1	4.5	3.0	1.5	3.0
Bottle 2	1.5	3.5	1.5	2.2
Bottle 3	5.0	4.5	1.5	3.7

CLEANING LABORATORY EVALUATION SUMMARY

				% Average: 2.9
Cleaner	BioMystic 5x	Original		Average
Bottle 1	4.0	5.0	4.0	4.3
Bottle 2	4.0	4.5	4.0	4.2
Bottle 3	4.0	4.0	3.5	3.8
				% Average: 4.1
Cleaner	BioMystic 5x	Sprays: 2		Average
Bottle 1	3.0	4.0	3.5	3.5
Bottle 2	3.5	3.5	3.0	3.3
Bottle 3	2.0	2.5	2.0	2.2
				% Average: 3.0
Cleaner	BioMystic 5x	Sprays: 4		Average
Bottle 1	2.0	1.5	1.5	1.7
Bottle 2	2.5	2.0	2.0	2.2
Bottle 3	2.0	2.0	2.0	2.0
				% Average: 1.9
Cleaner	BioMystic Unscented	Original		Average
Bottle 1	4.0	4.5	5.0	4.5
Bottle 2	5.0	5.0	5.0	5.0
Bottle 3	5.0	4.0	5.0	4.7
				% Average: 4.7
Cleaner	BioMystic Unscented	Sprays: 2		Average
Bottle 1	5.0	5.0	5.0	5.0
Bottle 2	2.0	2.5	2.5	2.3
Bottle 3	4.0	4.5	3.5	4.0
				% Average: 3.8
Cleaner	BioMystic Unscented	Sprays: 4		Average

CLEANING LABORATORY EVALUATION SUMMARY

Bottle 1	5.0	5.0	4.0	4.7
Bottle 2	5.0	5.0	4.5	4.8
Bottle 3	5.0	5.0	5.0	5.0
				% Average: 4.8
Cleaner	E-50	Original		Average
Bottle 1	5.0	5.0	4.0	4.7
Bottle 2	5.0	5.0	4.0	4.7
Bottle 3	5.0	5.0	5.0	5.0
				% Average: 4.7
Cleaner	E-50	Sprays: 2		Average
Bottle 1	2.0	3.0	3.0	2.7
Bottle 2	3.5	3.5	3.0	3.3
Bottle 3	2.0	2.5	2.0	2.2
				% Average: 2.7
Cleaner	E-50	Sprays: 4		Average
Bottle 1	2.0	2.5	2.5	2.3
Bottle 2	1.5	1.5	1.5	1.5
Bottle 3	3.5	2.0	2.0	2.5
				% Average: 2.1
Cleaner	Shout Pets	Original		Average
Bottle 1	4.0	5.0	4.0	4.3
Bottle 2	5.0	5.0	5.0	5.0
Bottle 3	5.0	4.5	3.0	4.2
				% Average: 4.5
Cleaner	Shout Pets	Sprays: 2		Average
Bottle 1	2.5	3.5	3.0	3.0
Bottle 2	3.0	4.0	4.0	3.7
Bottle 3	4.0	4.5	4.0	4.2

CLEANING LABORATORY EVALUATION SUMMARY

				% Average: 3.6
Cleaner	Shout Pets	Sprays: 4		Average
Bottle 1	1.0	1.5	1.5	1.3
Bottle 2	2.0	2.0	2.0	2.0
Bottle 3	1.5	1.5	1.5	1.5
				% Average: 1.6

Summary:

Substrates:	Liquid
Contaminants:	Odor

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Qwatro Corporation	BioMystic Odor Eliminator and Deep Cleaner (Scented)	100	0.00	☑	Partially Effective at reducing malodor level
Qwatro Corporation	BioMystic Odor Eliminator and Deep Cleaner (Unscented)	100	0.00	☐	Not Effective at reducing malodor level
Qwatro Corporation	BioMystic Biological Odour Eliminator & Deep Cleaner (5-X)	100	0.00	☑	Effective at removing malodor level
EcoLogic Solutions, Inc.	Deodorizing Cleaner E-50	100	0.00	☑	Effective at removing malodor level
SC Johnson & Son Inc	Shout Urine Destroyer Carpet	100	0.00	☑	Effective at removing malodor level

Conclusion:

An effective cleaning agent has a malodor level that is 2 or below. Shout Pets worked the best at removing malodor level with a malodor level of 1.6 after 2 cycles of treatments. However, BioMystic 5x came close to that of the cleaning agent Shout Pets with nearly only a 0.3 difference; to have a malodor level respectively of 1.9. Basing its result after the 2 cycle of treatment, cleaning agents E-50 and BioMystic 5x was on par with one another. In comparison between the most effective Qwatro cleaning agent is as follows: BioMystic 5x, BioMystic and BioMystic Unscented.

Contaminated bottles treated by Shout Pets had a rise in malodor level from an overnight sit. Whereas bottles treated with BioMystic, BioMystic 5x, BioMystic Unscented and E-50 cleaning agents did not have a significant increase in malodor level. When an additional cycle of treatment was conducted on each of the bottles, overall, it did decrease the malodor level from bottles treated with BioMystic 5x, E-50 and Shout Pets to under a malodor level of 2. In addition, the bottles treated with BioMystic had a malodor level of 2.3. On the other hand, bottles treated with BioMystic Unscented were not effective because there was not a significant lowering in malodor level after a cycle of treatment. It brought the respective rating of BioMystic Unscented treated bottles from a 4.1 to 3.9 after the overnight spray.

Overall, the best cleaning agent would be as follows: E-50, BioMystic 5x and Shout Pets.