

Rescue™ Disinfectant Removes Fear Pheromones from Surfaces

Abstract

Visits to animal care facilities are often stressful experiences for animals, triggering the release of fear-causing pheromones. Residual pheromones on surfaces, when detected by other animals, may lead to additional anxiety. Rescue™ has demonstrated its ability to successfully remove fear pheromones from surfaces, helping ensure a calmer experience within veterinary, shelter and pet boarding facilities.

Background

Pheromones are chemicals that animals release to communicate with one another¹. Specifically, many animals produce fear pheromones in response to a real or perceived danger, to alert other animals to this threat¹. This process is observed in animal care facilities, which are known to cause stress in many animals, triggering the release of fear pheromones¹. These pheromones, if left behind on surfaces, would likely cause distress in other animals that encounter the scent, adding to the stress of the visit². Therefore, we would reason that cleaning pheromones from surfaces throughout the facility would likely play an important role in the reduction of fear, stress or anxiety associated with the experience.

Study

A third-party research lab was engaged to test the effectiveness of Rescue™ in removing fear pheromones from surfaces.

The pheromone tested was 2-phenylethylamine (2-PEA), a pheromone found in the urine of many carnivores (particularly felids) that has associated with avoidance behavior in mice³. Purified 2-PEA was added to samples of bobcat urine to form a 1% solution. A 0.5 mL aliquot of this solution was dispensed onto three stainless steel coupons, labelled 'Samples 1, 2 and 3'. An additional stainless-steel coupon remained blank for use as a control. The samples were allowed to dry for two hours. Following this, Rescue™ Disinfectant Wipes were used to clean the three sample areas along with the control area, in the same method accepted by the EPA for antimicrobial efficacy testing.

After treatment with the wipes, the coupons were allowed to dry for 10 minutes.

After the 10-minute drying period, a 1-mL aliquot of water was applied to each coupon and extracted using a glass pipet. Extracted samples were placed in an autosampler vial for analysis, and were analyzed using a standardized liquid chromatography-mass spectrometry (LC-MS) method to detect the amount of residual 2-PEA on each coupon.

Results

On average, Rescue™ was successful in removing greater than 99.6% of 2-PEA from the test coupons. A reference standard of 2-PEA prepared at a concentration of 10 µg/mL was analyzed to ensure there were no limitations in the detection in the spiked sample and that the 2-hour dry time did not alter the recovery. These findings indicate that Rescue™ is capable of sufficiently removing pheromone residues from surfaces commonly found in the veterinary setting.

Conclusion

These findings give confidence that Rescue™, with its excellent surfactant package and oxidizing properties of hydrogen peroxide, is able to remove pheromones from surfaces. Due to the heightened focus in recent years of improving animal well-being both inside and outside of the veterinary clinics, animal shelters and pet boarding facilities, it's becoming more important than ever to ensure that the chemicals we use for cleaning and disinfection are contributing to this in a positive way. Rescue™, with its lack of harsh chemical odour and demonstrated efficacy in removing fear-inducing pheromones, is an excellent choice for everyday cleaning and disinfection.

Prevention Redefined