**Lack of Harmful Effects of Rabbit Pheromone on Cats**

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**Executive Summary**

 Cats rely on odors to communicate, mark territories and to avoid conflicts with other cats. Pheromones may correct or prevent cat behavioral problems such as aggression, nervousness, and inter-cat social problems. We have also documented effects of pheromones on cat heart rate. The rabbit pheromone is *trans*-2-methyl-2-butenal (2M2B).  2M2B is reported to be a pheromone in the European rabbit; it attracts the pups to the mother’s nipple for breast-feeding (Schaal et al., 2003; Coureaud et al., 2003). 2M2B is an interomone in that it can change the behavior and physiology of the cat. The objective of this report is to document general effects of 2M2B on cat health and welfare.

 Over a period of 3 years, we generated 9 plus reports on the use of 2M2B in cats. In total we exposed 160 cats to 2m2B in various forms (litter, ointment, collar, spray; see Table 1). In no case did we find any injury, death, rash, or any animal health concern. Animal care staff and scientists observed cats each day, and the veterinary staff observed animals each week. Zero cats required veterinary attention associated with 2M2B use. Observations were made by at least 3 people for each cat. No harmful, stressful, or otherwise negative effects on the animal health or welfare were observed in any cat.

 We conclude that 2M2B does not cause any harmful effects when applied to the cats. Thus, 2M2B is safe for use in cats.

**Table 1**. A list of studies and the number of cats evaluated in each study in our laboratory (The Cat Pheromone Site, 2017).

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| Study ID # | Name of studies | # cats |
| R-2013-01 | Cats preferred litter with rabbit pheromone Study 1 | 48 |
| R-2014-02 | Cat litter effects on inappropriate soiling and inter-cat aggression in cat pairs: Placebo vs. rabbit pheromone cat litter Part 1 | 16 |
| R-2014-03 | Pheromone cat litter effects on inappropriate soiling and aggression: Placebo vs. rabbit pheromone Part 2 | 16 |
| R-2017-05 | Effects of natural interomone (2-methyl-2-butenal) in ointment on cats in a noise stress model (thunderstorm simulation) oinment | 8 |
| R-2017-06 | Heart rate response to simulated thunderstorm: Calming diffuser | 16 |
| R-2017-07 | Heart rate response to simulated thunderstorm: Calming spray | 8 |
| R-2017-08 | Heart rate response to simulated fireworks: Calming collar | 16 |
| R-2017-11 | Heart rate response to simulated fireworks: Calming spray | 8 |
| R-2016-12 | First transport study: Calming collars | 16 |
| R-2017-25 | Second transport study: Calming collars | 16 |
|  | **Total** | **168** |

**References**

1. Coureaud G, Langlois D, Sicard G, Schaal B. Newborn rabbit responsiveness to the mammary pheromone is concentration dependent. Chem Senses. 2003; 29: 341-350.
2. Schaal, B., Coureaud, G., Langlois, D., Ginies, C., Semon, E. and Perrier, G. Chemical and behavioural characterization of the rabbit mammary pheromone. *Nature*. 2003; 424: 68-72.
3. The Cat Pheromone Site. 2017. Texas Tech University Laboratory of Animal Behavior, Physiology, and Welfare.

<http://www.depts.ttu.edu/animalwelfare/Research/Pheromones/cat.php>