

OSAC RESEARCH NEEDS ASSESSMENT FORM



Title of research need: Evaluation of Dissipation of Odorant

Keyword(s): Odor, dissipation, canine

Submitting subcommittee(s): Dogs & Sensors **Date Approved:** March 10, 2021

(If SAC review identifies additional subcommittees, add them to the box above.)

Background Information:

1. Does this research need address a gap(s) in a current or planned standard? (ex.: Field identification system for on scene opioid detection and confirmation)

Research is needed to understand the dissipation/emission rates of various odors that originate from canine training aids. Currently odorants dissipate from canine training aids at unknown rates, this results in canines being exposed to aids without knowing if the aid is in fact releasing sufficient odor before, during or after use under various environmental conditions.

Quantifying and evaluating the influence of environmental factors (temperature, humidity, underwater, shade, aging) on target odorant composition are of importance to detection capabilities.

2. Are you aware of any ongoing research that may address this research need that has not yet been published (e.g., research presented in conference proceedings, studies that you or a colleague have participated in but have yet to be published)?

Unknown

3. Key bibliographic references relating to this research need: (ex.: Toll, L., Standifer, K. M., Massotte, D., eds. (2019). Current Topics in Opioid Research. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-88963-180-3)

DeGreeff LE, Cerreta M, Katilie CJ. 2017 Variation in the headspace of bulk hexamethylene triperoxide diamine (HMTD) with time, environment, and formulation Forensic Chemistry 4: 41-50.

4. Review the annual operational/research needs published by the National Institute of Justice (NIJ) at <https://nij.ojp.gov/topics/articles/forensic-science-research-and-development-technology-working-group-operational#latest>? Is your research need identified by NIJ?

No

5. In what ways would the research results improve current laboratory capabilities?

Research would inform how dissipation processes and environmental conditions affect the physical properties of critical targets important for detection.

6. In what ways would the research results improve understanding of the scientific basis for the subcommittee(s)?

The research would improve understanding of the subcommittee to create superior best practice standard documents used by the canine community. Improve training, K9 handling, better understanding of source storage/handling of training aids.

7. In what ways would the research results improve services to the criminal justice system?

The improved best practice standards will result in superior canine performance, resulting in a law enforcement tool that is more accurate and reliable.

8. Status assessment (I, II, III, or IV):

I

	Major gap in current knowledge	Minor gap in current knowledge
No or limited current research is being conducted	I	III
Existing current research is being conducted	II	IV

This research need has been identified by one or more subcommittees of OSAC and is being provided as an informational resource to the community.