

OSAC RESEARCH NEEDS ASSESSMENT FORM

Title of research need: Assessment of Examiners' Toolmark Categorization Accuracy							
Keyword(s): Toolmarks, firearms, class characteristics, subclass,							
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Submitting subcommittee(s): Firearms and Toolmarks	Date Approved:						
(If SAC review identifies additional subcommittees, add them to the box	above.)						
Background Information:							
1. Description of research need:							
We are unaware of any study that assess the overall firearm and toolmark discipline's ability to correctly/consistently categorize evidence by class characteristics, identify subclass marks.							
2. Key bibliographic references relating to this research need:							
n/a							
3a. In what ways would the research results improve current laboratory capabilities?							
Past validation studies have focused on the firearm and toolmark discipline's overall ability to correctly identify items using individual characteristics. We are unaware of any studies that focused on the discipline to correctly characterize class characteristics and eliminate samples. Additionally, we are unaware of any studies that assess examiner accuracy in recognizing subclass characteristics.							
3b. In what ways would the research results improve understanding of the scientific basis for the subcommittee(s)?							
Understanding the overall accuracy of class and subclass characteristic categorization will guide the subcommittee with writing our testing and examination standards.							
3c. In what ways would the research results improve services to the criminal justice system?							
Further studies assessing and documenting the accuracy of examiners will help the justice system assess the overall error rates of the toolmark examinations.							
4. Status assessment (I, II, III, or IV):	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.

Approvals:

Subcommittee	Approval date:	5/4/2018				
(Approval is by majority vote of subcommittee. Once approved, forward to SAC.)						
SAC						
1. Does the SAC a	ngree with the resea	arch need?	Yes	Х	No	
2. Does the SAC a	gree with the statu	s assessment?	Yes	х	No	
If no, what is	the status assessm	ent of the SAC:				
Approval date:	5/4/2018					
(Approval is by majority vote of SAC. Once approved, forward to NIST for posting.)						