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Safe Handling of Firearms and Ammunition



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Foreword

This document provides guidelines for the safe handling of firearm and ammunition evidence by forensic firearm and toolmark examiners or technicians. This document is not intended to detail the analytical procedures for the forensic examination of firearms.

This document was revised, prepared, and finalized as a standard by the Firearms and Toolmarks Consensus Body of the AAFS Standards Board. The draft of this standard was developed by the Firearms and Toolmarks Subcommittee of the Organization of Scientific Area Committees (OSAC) for Forensic Science.

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the term '**should**' indicates that a provision is not mandatory, but recommended as good practice.

All hyperlinks and web addresses shown in this document are current as of the publication date of this standard.

Keywords: *firearms, ammunition, forensic analysis, safe handling, safety*

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Safe Handling of Firearms and Ammunition

1 Scope

This document provides best practice recommendations for the safe handling of firearm and ammunition evidence during forensic analysis.

2 Normative References

There are no normative reference documents. Annex A, Bibliography, contains informative references.

3 Terms and Definitions

3.1

primed cartridge case

A cartridge case containing only a primer, without propellant or projectile.

3.2

dummy (inert) cartridge

A cartridge that does not contain primer, propellant, or explosive charge and therefore cannot be fired

4 Recommendations

4.1 General

4.1.1 Firearm and ammunition evidence in the laboratory is not dangerous if handled appropriately. Safe firearm handling within the laboratory corresponds with safe firearm handling in general. Laboratories shall ensure all personnel handling firearms and ammunition are properly trained or have protocols for collaborative evidence collection with properly trained personnel.

4.1.2 Use caution and due diligence when handling, packaging, and/or transporting firearm and ammunition evidence.

4.1.3 Use appropriate personal protective equipment when examining evidence contaminated with chemical and/or biohazardous material(s).

4.1.4 Ammunition should be stored in a safe condition and following manufacturers' recommendations to prevent deterioration and/or discharge.

4.2 Pre-examination

4.2.1 Laboratories should have a procedure to determine and document the loaded or unloaded condition of any firearm. This procedure should be conducted in a timely fashion. When laboratory personnel are performing this function, the laboratory should have a process to assess the competence of these individuals. Records of this assessment and their authorization to perform this task should be maintained. The laboratory should designate an appropriate area(s) where these activities are to be performed.

4.2.2 When a laboratory must receive firearms in a loaded condition, or when the loaded/unloaded condition of a firearm cannot be determined, the laboratory shall have a procedure in place to ensure that appropriate caution is exercised, and steps are taken to ensure the safety of all personnel until such time that the firearm can be unloaded.

4.2.3 Laboratories should have a procedure to inspect ammunition prior to use to ensure safety.

4.3 Handling During Examination

4.3.1 Prior to any examination, inspect firearms to assess their loaded or unloaded condition.

4.3.2 Ensure that the muzzle of the firearm is pointed in a safe direction at all times. A safe direction is one that minimizes risk of injury in the case of unintentional discharge, and takes into account such factors as the bullet-resistance of barriers, potential for ricochet, etc.

NOTE This section is not meant to forbid forensically necessary examinations, such as bore exam, but such circumstances demand extra precautions (see 4.3.1).

4.3.3 Do not place a finger or other object on the trigger of the firearm unless it has been confirmed that the firearm is unloaded, or until ready to test fire.

4.3.4 Unless required for a specific test, remove the magazine or any ammunition source and leave the action of the firearm open to demonstrate its unloaded condition (when practical).

4.3.5 Do not use live ammunition for ammunition capacity checks or cycling of firearm actions when “dummy” (inert) cartridges are available. If “dummy” cartridges are not available, perform any testing involving the cycling of live ammunition through the action of a firearm in an area designated for test firing while using hearing and eye protection.

4.3.6 Ammunition shall be considered live at all times and shall be safely handled, transported, and stored.

4.4 Test Firing

4.4.1 Use hearing and eye protection at all times when test firing.

4.4.2 Conduct test firing of firearms only in areas that are designated for such activities.

4.4.3 Measures should be in place to ensure the safety of examiners during the test firing process. These may include, but are not limited to:

- a) in person or remote monitoring;
- b) signage or notification to indicate that test firing is in progress; and
- c) ensuring emergency access to the test firing area.

4.4.4 Inspect all firearms for defects, modifications, and missing/broken parts prior to test firing.

NOTE Consider checking available literature for recall or safety information.

4.4.5 Inspect the bore of all firearms for obstructions prior to test firing.

4.4.6 If there is any doubt as to whether a firearm can be safely fired by hand, alternative means for test firing, such as the use of a remote firing device or a primed cartridge case, should be considered.

4.4.7 Use appropriate ammunition for the firearm. If reloaded ammunition or a potentially unsafe firearm-ammunition combination must be used, exercise special caution.

4.4.8 Do not test fire a firearm unless familiar with its operation.

4.5 Post-examination

4.5.1 When testing is complete, ensure that the firearm is unloaded prior to repackaging or return.

4.5.2 If possible, secure the action of the firearm such that it cannot be loaded or fired. Physically separate any ammunition from the action of the firearm.

4.6 Incident Reporting

4.6.1 Laboratories should have a procedure for reporting incidents that raise concerns about firearms and ammunition safety, so they can be appropriately addressed by management.

Annex A **(informative)**

Bibliography

This is not meant to be an all-inclusive list as the group recognizes other publications on this subject may exist. At the time this standard was drafted, these were the publications used for reference. Additionally, any mention of a particular software tool or vendor as part of this bibliography is purely incidental, and any inclusion does not imply endorsement.

- 1] Bussard, M.E. and S.L. Wormley, Jr. "*NRA Firearms Sourcebook: Your Ultimate Guide to Guns, Ballistics, and Shooting.*" The National Rifle Association of America, 2006, Fairfax, VA 22030.
- 2] Dutton, G. "Firearms Safety in the Laboratory." *Association of Firearm and Toolmark Examiners Journal*, vol. 29, no.1, 1997, pages 37-41.
- 3] National Rifle Association, *NRA Gun Safety Rules*^a.
- 4] Sporting Arms and Ammunition Manufacturers' Institute, Inc., "*Technical Data Sheet Unsafe Firearm-Ammunition Combinations*"^b.

^a Available from <https://gunsafetyrules.nra.org/>.

^b Available from <https://saami.org/technical-information/unsafe-firearm-ammunition-combinations/>.



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