

OSAC Registry

FY 2022



The Organization of Scientific Area Committees (OSAC) for Forensic Science Registry is a repository of high-quality, technically sound published and proposed standards for forensic science. These written documents define minimum requirements, best practices, standard protocols, and other guidance to help ensure the results of forensic analysis are valid, reliable, and reproducible.

All the standards on the OSAC Registry have passed a rigorous technical and quality review by OSAC members, including forensic science practitioners, research scientists, statisticians, and legal experts.

The following **108** standards were effective on the OSAC Registry at the end of fiscal year 2022 (ending September 30, 2022).

ANTHROPOLOGY

Published Standard (1):

- ANSI/ASB Best Practice Recommendation 089, *Best Practice Recommendation for Facial Approximation in Forensic Anthropology*, First Edition, 2020 (added September 7, 2021).

BIOLOGY/DNA

Published Standards (11):

- ANSI/ASB Standard 018, *Standard for Validation of Probabilistic Genotyping Systems*, First Edition, 2020 (added May 4, 2021).
- ANSI/ASB Standard 020, *Standard for Validation Studies of DNA Mixtures, and Development and Verification of a Laboratory's Mixture Interpretation Protocol*, First Edition, 2018 (added May 12, 2020).
- ANSI/ASB Standard 022, *Standard for Forensic DNA Analysis Training Programs*, First Edition, 2019 (added September 1, 2020).
- ANSI/ASB Standard 023, *Standard for Training in Forensic DNA Isolation and Purification Methods*, First Edition, 2020 (added August 3, 2021).
- ANSI/ASB Standard 040, *Standard for Forensic DNA Interpretation and Comparison Protocols*, First Edition, 2019 (added May 12, 2020).
- ANSI/ASB Standard 110, *Standards for Training in Forensic Serological Methods*, First Edition, 2020 (added August 3, 2021).
- ANSI/ASB Standard 115, *Standard for Training in Forensic Short Tandem Repeat Typing Methods using Amplification, DNA Separation, and Allele Detection*, First Edition, 2020 (added August 3, 2021).
- ANSI/ASB Standard 116, *Standard for Training in Forensic DNA Quantification Methods*, First Edition, 2020 (added August 3, 2021).
- ANSI/ASB Standard 130, *Standard for Training in Forensic DNA Amplification Methods for Subsequent Capillary Electrophoresis Sequencing*, First Edition, 2021 (added April 5, 2022).
- ANSI/ASB Standard 131, *Standard for Training in Forensic DNA Sequencing Using Capillary Electrophoresis*, First Edition, 2021 (added April 5, 2022).
- ANSI/ASB Standard 140, *Standard for Training in Forensic Human Mitochondrial DNA Analysis, Interpretation, Comparison, Statistical Evaluation, and Reporting*, First Edition, 2021 (added April 5, 2022).

OSAC Proposed Standards (2):

- OSAC 2020-N-0007, *Best Practice Recommendations for the Management and Use of Quality Assurance DNA Elimination Databases in Forensic DNA Analysis* (added April 6, 2021).
- OSAC 2020-S-0004, *Standard for Interpreting, Comparing and Reporting DNA Test Results Associated with Failed Controls and Contamination Events* (added June 1, 2021).

BLOODSTAIN PATTERN ANALYSIS

Published Standards (1):

- ASB Technical Report 033, *Terms and Definitions in Bloodstain Pattern Analysis*, First Edition, 2017 (added June 3, 2020).

OSAC Proposed Standards (1):

- OSAC 2021-N-0039, *Standard for a Mentorship Program in Bloodstain Pattern Analysis* (added April 5, 2022).

CRIME SCENE INVESTIGATION & RECONSTRUCTION

OSAC Proposed Standards (2):

- OSAC 2021-N-0015, *Guiding Principles for Scene Investigation and Reconstruction* (added September 7, 2021).
- OSAC 2021-N-0016, *Standard for Initial Response at Scenes by Law Enforcement* (added September 7, 2021).

DIGITAL EVIDENCE

Published Standards (3):

- ASTM E2916-19e1 *Standard Terminology for Digital and Multimedia Evidence Examination* (added July 7, 2020).
 - NOTE: This document drafted in collaboration with OSAC's Digital Evidence, Facial Identification, and VITAL Subcommittees.
- ASTM E3017-19 *Standard Practice for Examining Magnetic Card Readers* (added July 7, 2020).
- ASTM E3150-18 *Standard Guide for Forensic Audio Lab Setup and Maintenance* (added July 7, 2020).

DOGS & SENSORS

Published Standards (3):

- ASB Technical Report 025, *Crime Scene/Death Investigation – Dogs & Sensors – Terms and Definitions*, First Edition, 2017 (added October 1, 2019).
- ANSI/ASB Standard 085, *Standard for Detection Canine Selection, Kenneling, and Healthcare*, First Edition, 2021 (added April 5, 2022).
- ANSI/ASB Standard 088, *General Guidelines for Training, Certification, and Documentation of Canine Detection Disciplines*, First Edition 2020 (added April 5, 2022).

FACIAL IDENTIFICATION

Published Standards (4):

- ASTM E2916-19e1 *Standard Terminology for Digital and Multimedia Evidence Examination* (added July 7, 2020).
 - NOTE: This document drafted in collaboration with OSAC's Digital Evidence, Facial Identification, and VITAL Subcommittees.



- ASTM E3115-17 *Standard Guide for Capturing Facial Images for Use with Facial Recognition Systems* (added October 1, 2019).
- ASTM E3148-18 *Standard Guide for Postmortem Facial Image Capture* (added October 1, 2019).
- ASTM E3149-18 *Standard Guide for Facial Image Comparison Feature List for Morphological Analysis* (added February 14, 2019).

OSAC Proposed Standards (1):

- OSAC 2020-S-0002, *Physical Stability of Facial Features of Adults* (added June 1, 2021).
 - NOTE: This is an annex to the published standard, ASTM E3149-18 *Standard Guide for Facial Image Comparison Feature List for Morphological Analysis*, listed above.

FIRE & EXPLOSION INVESTIGATION

Published Standards (2):

- NFPA 921:2021 *Guide for Fire and Explosion Investigations* (added September 6, 2022).
 - NOTE: This version replaced 921:2017 previously on the Registry.
- NFPA 1033:2022 *Standard for Professional Qualifications for Fire Investigator* (added September 6, 2022).
 - NOTE: This version replaced 1033:2014 previously on the Registry.

FIRE DEBRIS & EXPLOSIVES

Published Standards (10):

- ASTM E1388-17 *Standard Practice for Static Headspace Sampling of Vapors from Fire Debris Samples* (added December 1, 2020).
- ASTM E1412-19 *Standard Practice for Separation of Ignitable Liquid Residues from Fire Debris Samples by Passive Headspace Concentration with Activated Charcoal* (added December 1, 2020).
- ASTM E1413-19 *Standard Practice for Separation of Ignitable Liquid Residues from Fire Debris Samples by Dynamic Headspace Concentration onto an Adsorbent Tube* (added December 1, 2020).
- ASTM E2451-21 *Standard Practice for Preserving Ignitable Liquids and Ignitable Liquid Residue Extracts from Fire Debris Samples* (added April 5, 2022).
- ASTM E3189-19 *Standard Practice for Separation of Ignitable Liquid Residues from Fire Debris Samples by Static Headspace Concentration onto an Adsorbent Tube* (added December 1, 2020).
- ASTM E3196-21 *Standard Terminology Relating to the Examination of Explosives* (added July 5, 2022).
- ASTM E3197-20 *Standard Terminology Relating to Examination of Fire Debris* (added April 6, 2021).
- ASTM E3245-20e1 *Standard Guide for Systematic Approach to the Extraction, Analysis, and Classification of Ignitable Liquids and Ignitable Liquid Residues in Fire Debris Samples* (added May 4, 2021).
- ASTM E3253-21 *Standard Practice for Establishing an Examination Scheme for Intact Explosives* (added July 5, 2022).
- ASTM E3329-21 *Standard Practice for Establishing an Examination Scheme for Explosive Residues* (added July 5, 2022).

FIREARMS & TOOLMARKS

Published Standards (5):

- ANSI/ASB Standard 061, *Firearms and Toolmarks 3D Measurement Systems and Measurement Quality Control, First Edition, 2021* (added March 1, 2022).
- ANSI/ASB 062, *Standard for Topography Comparison Software for Toolmark Analysis, First Edition, 2021* (added August 2, 2022).
- ANSI/ASB 063, *Implementation of 3D Technologies in Forensic Firearm and Toolmark Comparison Laboratories, First Edition, 2021* (added August 2, 2022).
- ANSI/ASB Best Practice Recommendation 068, *Safe Handling of Firearms and Ammunition, First Edition, 2020* (added April 6, 2021).
- ANSI/ASB Standard 093, *Standard Test Method for the Forensic Examination and Testing of Firearms, First Edition, 2020* (added November 2, 2021).

FOOTWEAR & TIRE

Published Standards (2):

- ANSI/ASB Best Practice Recommendation 021, *Best Practices for the Preparation of Test Impressions from Footwear and Tires, First Edition, 2019* (added May 4, 2021).
- ANSI/ASB Best Practice Recommendation 049, *Best Practice Recommendation for Lifting of Footwear and Tire Impressions, First Edition, 2020* (added September 7, 2021).

FRICTION RIDGE

Published Standards (1):

- ASTM E3235-21 *Standard Practice for Latent Print Evidence Imaging Resolution* (added June 7, 2022).
 - NOTE: This document was drafted by OSAC's Video/Imaging Technology & Analysis Subcommittee.

OSAC Proposed Standards (3):

- OSAC 2021-N-0020, *Best Practice Recommendations for Limited Examinations* (added April 5, 2022).
- OSAC 2022-N-0033, *Standard for Processing Evidence for the Detection of Friction Ridge Impressions* (added September 6, 2022).
- OSAC 2022-S-0012, *Standard for Proficiency Testing in Friction Ridge Examination* (added June 7, 2022).

GUNSHOT RESIDUE ANALYSIS

Published Standards (2):

- ASTM E1588-20 *Standard Practice for Gunshot Residue Analysis by Scanning Electron Microscopy/Energy Dispersive X-Ray Spectrometry* (added September 7, 2021).
- ASTM E3309-21 *Standard Guide for Reporting of Forensic Primer Gunshot Residue (pGSR) Analysis by Scanning Electron Microscopy/Energy Dispersive X-Ray Spectrometry (SEM/EDS)* (added September 6, 2022).

OSAC Proposed Standards (1):

- OSAC 2021-N-0009, *Standard Practice for the Collection and Preservation of Organic Gunshot Residue* (added December 7, 2021).

MEDICOLEGAL DEATH INVESTIGATION

Published Standards (5):

- ANSI/ASB Best Practice Recommendation 007, *Postmortem Impression Submission Strategy for Comprehensive Searches of Essential Automated Fingerprint Identification System Databases*, First Edition, 2018 (added September 5, 2019).
- ANSI/ASB Best Practice Recommendation 008, *Mass Fatality Scene Processing: Best Practice Recommendations for the Medicolegal Authority*, First Edition, 2021 (added April 5, 2022).
- ANSI/ASB Best Practice Recommendation 009, *Best Practice Recommendations for the Examination of Human Remains by Forensic Pathologists in the Disaster Victim Identification Context*, First Edition, 2019 (added September 7, 2021).
- ANSI/ASB Best Practice Recommendation 010, *Forensic Anthropology in Disaster Victim Identification: Best Practice Recommendations for the Medicolegal Authority*, First Edition, 2018 (added September 5, 2019).
- ANSI/ASB Best Practice Recommendation 094, *Postmortem Impression Recovery: Guidance and Best Practices for Disaster Victim Identification*, First Edition, 2021 (added April 5, 2022).

OSAC Proposed Standards (3):

- OSAC 2021-N-0007, *Media Communications Following a Mass Fatality Incident: Best Practice Recommendations for the Medicolegal Authority* (added August 3, 2021).
- OSAC 2021-N-0008, *Victim Accounting: Best Practice Recommendations for Medicolegal Authorities in Mass Fatality Management* (added August 3, 2021).
- OSAC 2022-N-0026, *Medicolegal Death Investigation: Terms and Definitions* (added September 6, 2022).

ODONTOLOGY

Published Standards (3):

- ANSI/ADA 1058-2010D Forensic Dental Data Set (added February 14, 2019).
- ADA 1077-2020 Human Age Assessment by Dental Analysis (added November 2, 2021).
- ADA 1088-2017D Human Identification by Comparative Dental Analysis (added March 7, 2019).

OSAC Proposed Standards (1):

- OSAC 2021-N-0030, *Terminology for a Suspected Pattern of Dental Origin* (added April 5, 2022).

SEIZED DRUGS

Published Standards (7):

- ASTM E1968-19 *Standard Practice for Microcrystal Testing in Forensic Analysis of Cocaine* (added July 6, 2021).
- ASTM E1969-19 *Standard Practice for Microcrystal Testing in Forensic Analysis for Methamphetamine and Amphetamine* (added July 6, 2021).
- ASTM E2125-19 *Standard Practice for Microcrystal Testing in Forensic Analysis for Phencyclidine and its Analogues* (added July 6, 2021).
- ASTM E2329-17 *Standard Practice for Identification of Seized Drugs* (added August 7, 2018).
- ASTM E2548-16 *Standard Guide for Sampling Seized Drugs for Qualitative and Quantitative Analysis* (added June 1, 2021).
- ASTM E2882-19 *Standard Guide for Analysis of Clandestine Drug Laboratory Evidence* (added July 6, 2021).
- ASTM E3255-21 *Standard Practice for Quality Assurance of Forensic Science Service Providers Performing Forensic Chemical Analysis* (added November 2, 2021).

TOXICOLOGY

Published Standards (9):

- ANSI/ASB Standard 017, *Standard Practices for Measurement Traceability in Forensic Toxicology*, First Edition, 2018 (added June 18, 2019).
- ANSI/ASB Standard 036, *Standard Practices for Method Validation in Forensic Toxicology*, First Edition, 2019 (added July 7, 2020).
- ANSI/ASB Best Practice Recommendation 037, *Guidelines for Opinions and Testimony in Forensic Toxicology*, First Edition, 2019 (added November 5, 2019).
- ANSI/ASB Standard 053, *Standard for Report Content in Forensic Toxicology*, First Edition, 2020 (added March 2, 2021).
- ANSI/ASB Standard 054, *Standard for a Quality Control Program in Forensic Toxicology Laboratories*, First Edition, 2021 (added September 6, 2022).
- ANSI/ASB Standard 119, *Standard for the Analytical Scope and Sensitivity of Forensic Toxicological Testing of Blood in Medicolegal Death Investigations*, First Edition, 2021 (added September 6, 2022).
- ANSI/ASB Standard 120, *Standard for the Analytical Scope and Sensitivity of Forensic Toxicological Testing of Blood in Impaired Driving Investigations*, First Edition, 2021 (added September 6, 2022).
- ANSI/ASB Standard 121, *Standard for the Analytical Scope and Sensitivity of Forensic Toxicological Testing of Urine in Drug-Facilitated Crime Investigations*, First Edition, 2021 (added May 3, 2022).
- ANSI/ASB Standard 152, *Standard for the Minimum Content Requirements of Forensic Toxicology Procedures*, First Edition, 2021 (added September 6, 2022).

OSAC Proposed Standards (1):

- OSAC 2020-S-0003, *Guidelines for Performing Alcohol Calculations in Forensic Toxicology* (added May 3, 2022).

TRACE EVIDENCE

Published Standards (12):

- ASTM E1610-18 *Standard Guide for Forensic Paint Analysis and Comparison* (added June 26, 2018).
- ASTM E1967-19 *Standard Test Method for the Automated Determination of Refractive Index of Glass Samples Using the Oil Immersion Method and a Phase Contrast Microscope* (added July 7, 2020).
- ASTM E2330-19 *Standard Test Method for Determination of Concentrations of Elements in Glass Samples Using Inductively Coupled Plasma Mass Spectrometry (ICP-MS) for Forensic Comparisons* (added July 7, 2020).
- ASTM E2808-21a *Standard Guide for Microspectrophotometry in Forensic Paint Analysis* (added February 1, 2022).
- ASTM E2926-17 *Standard Test Method for Forensic Comparison of Glass Using Micro X-ray Fluorescence (μ -XRF) Spectrometry* (added July 31, 2017).
- ASTM E2927-16e1 *Standard Test Method for Determination of Trace Elements in Soda-Lime Glass Samples Using Laser Ablation Inductively Coupled Plasma Mass Spectrometry for Forensic Comparisons* (added June 5, 2018).
- ASTM E2937-18 *Standard Guide for Using Infrared Spectroscopy in Forensic Paint Examinations* (added June 26, 2018).
- ASTM E3085-17 *Standard Guide for Fourier Transform Infrared Spectroscopy in Forensic Tape Examinations* (added September 11, 2018).
- ASTM E3233-20 *Standard Practice for Forensic Tape Analysis Training Program* (added November 3, 2020).
- ASTM E3234-20 *Standard Practice for Forensic Paint Analysis Training Program* (added November 3, 2020).
- ASTM E3260-21 *Standard Guide for Forensic Examination and Comparison of Pressure Sensitive Tapes* (added October 5, 2021).
- ASTM E3272-21 *Standard Guide for Collection of Soils and Other Geological Evidence for Criminal Forensic Applications* (added September 7, 2021).

VIDEO/IMAGING TECHNOLOGY & ANALYSIS

Published Standards (2):

- ASTM E2916-19e1 *Standard Terminology for Digital and Multimedia Evidence Examination* (added July 7, 2020).
 - NOTE: This document drafted in collaboration with OSAC's Digital Evidence, Facial Identification, and VITAL Subcommittees.
- ASTM E3235-21 *Standard Practice for Latent Print Evidence Imaging Resolution* (added June 7, 2022).

OSAC Proposed Standards (2):

- OSAC 2021-S-0013, *Standard Guide for Post Mortem Examination Photography* (added March 1, 2022).
- OSAC 2021-S-0027, *Standard Guide for Laboratory Photography* (added July 5, 2022).

WILDLIFE FORENSICS

Published Standards (4):

- ANSI/ASB Standard 019, *Wildlife Forensics General Standards*, First Edition, 2019 (added March 2, 2021).
- ANSI/ASB Standard 029, *Report Writing in Wildlife Forensics: Morphology and Genetics*, First Edition, 2019 (added March 2, 2021)
- ANSI/ASB Standard 028, *Wildlife Forensics Morphology Standards*, First Edition, 2019 (effective June 3, 2020).
- ANSI/ASB Standard 047, *Wildlife Forensics Validation Standard – Validating New Primers for Sequencing*, First Edition, 2019 (effective June 3, 2020).

OSAC Proposed Standards (2):

- OSAC 2021-N-0001, *Wildlife Forensics Method-Collection of Known DNA Samples from Domestic Mammals* (added April 6, 2021).
- OSAC 2021-S-0006, *Standard for the Use of GenBank for Taxonomic Assignment of Wildlife* (added November 2, 2021).

INTERDISCIPLINARY

Published Standards (6):

- ANSI/NIST ITL-1: 2011 (Update 2015) *Data Format for the Interchange of Fingerprint, Facial & Other Biometric Information* (added November 3, 2020).
- ASTM E2917-19a *Standard Practice for Forensic Science Practitioner Training, Continuing Education, and Professional Development Programs* (added November 5, 2019).
- ASTM E3255-21 *Standard Practice for Quality Assurance of Forensic Science Service Providers Performing Forensic Chemical Analysis* (added November 2, 2021).
- ISO/IEC 17020:2012 *Conformity Assessment—Requirements for the Operation of Various Types of Bodies Performing Inspection* (added April 18, 2017 and re-approved June 7, 2022).
- ISO/IEC 17025:2017 *General Requirements for the Competence of Testing and Calibration Laboratories* (added June 18, 2019).
- ISO 21043-2 *Forensic Sciences - Part 2: Recognition, recording, collecting transport and storage of items* (added December 3, 2019).

