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Designation: E2458 – 06

Standard Practices for Bulk Sample Collection and Swab Sample Collection of Visible Powders Suspected of Being Biological Agents from Nonporous Surfaces[1]

This standard is issued under the fixed designation E2458; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 These practices address collection of visible powders that are suspected biological agents from solid nonporous surfaces using a bulk collection method, using a dry swab and laminated card, followed by a swab sampling method using a sterile moistened swab. Bulk powder samples are collected and packaged in a manner that permits them to be safely transported to an approved laboratory within the Center for Disease Control (CDC) Laboratory Response Network (LRN)[2] for safe storage, confirmatory analysis, and forensic testing. If the source of the powder is a letter or small package, the source is also packaged in a manner that permits it to be safely transported to the laboratory in the CDC Laboratory Response Network. Swab samples taken using a sterile moistened swab are used to collect residual powder and may be used for on-site screening and presumptive testing (biological screening).

1.2 These practices are performed after a risk assessment is conducted and a visible powder is deemed a credible biological threat.

1.3 Sample Collection Method A covers the bulk collection and packaging of suspicious visible powders that are suspected biological agents from solid nonporous surfaces.

1.4 Sample Collection Method B covers swab sampling of residual suspicious powders that are suspected biological agents from solid nonporous surfaces. Swab samples can be used for on-site screening and presumptive testing (biological screening). These presumptive tests are either confirmed or not confirmed by additional testing at the laboratory in the CDC Laboratory Response Network using samples collected in Sample Collection Method A.

1.5 These practices incorporate reference guidance for packaging and transport of suspicious visible powders to comply with all appropriate federal regulations regarding biosafety and biosecurity.

1.6 These practices should only be used to collect visible samples that are suspected biological hazards and have been screened according to reference guidance for explosive hazard, radiological hazard, and other acute chemical hazards.

1.7 The bulk sample collection practice and the swab sampling practice are recommended for collecting amassed or dispersed powder samples from all nonporous surfaces on which the suspicious powder sample is clearly visible.

1.8 These practices are not recommended for samples on porous materials such as upholstery, carpeting, air filters, or ceiling tiles.

1.9 These practices are recommended for collecting visible powders where the bulk of the powder sample is amassed or dispersed over a limited area (optimally, area should be less than 20 by 20 cm (approximately 8 by 8 in.) or 400 cm^2 (approximately 64 $in.^2$).

1.10 These practices are to be performed by personnel who are adequately trained to work with hazardous materials in the hot zone (see NFPA 471, NFPA 472, or OSHA 1910.120). Personnel performing collection or screening under these practices shall be adequately trained in the use of sampling equipment, materials, and procedures. This includes personnel performing the prior initial chemical and radiological screening. Personnel should use appropriate level of personal protective equipment (PPE) to mitigate hazards during collection and screening.

1.11 Committee E54 gratefully acknowledges the Sampling Standards Task Group of AOAC International as co-leaders with ASTM in the standard's development and adoption, and joins them in inviting the collaboration of all stakeholders in regard to the evolution of the document.

[1] These practices are under the jurisdiction of ASTM Committee E54 on Homeland Security Applications and are the direct responsibility of Subcommittee E54.01 on CBRNE Sensors and Detectors.

Current edition approved June 1, 2006. Published June 2006. DOI: 10.1520/E2458-06.

[2] The CDC Laboratory Response Network is the US national response network responsible for handling all samples of suspected biological agents. A plan for restructuring of the US national response network into a broader consortium of laboratories is ongoing in 2006.

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1.12 The values stated in SI units are to be regarded as standard. The values given in parentheses are for information only.

1.13 *This standard does not purport to address all of the safety concerns associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *NFPA Standards:*[3]

NFPA 471 Recommended Practice for Responding to Hazardous Materials Incidents

NFPA 472 Standard for Professional Competence of Responders to Hazardous Materials Incidents

NFPA 1994 Standard on Protective Ensembles for Chemical/Biological Terrorism Incidents

2.2 *IATA Standards:*[4]

IATA PI 602 Infectious Diseases (Infectious Substances)

IATA PI 650 Shipping of Diagnostic Samples

IATA DGR 46th Edition, 2005

IATA DGR Addendum I, January 2005

IATA DGR Addendum II, March 2005

IATA DGR Addendum III, July 2005

2.3 *Federal Government References:*[5]

49 CFR, Parts 171-180 Hazardous Materials Regulations

29 CFR, Part 1910.120 Hazardous Waste Operations and Emergency Response, Final Rule

CPL 02-02-071 Technical Enforcement and Assistance Guidance for Hazardous Waste Site and RCRA Corrective Action Clean-Up Operations

HAZWOPER 1910.120 (b)-(o) Directive

Handbook of Forensic Services 2003, FBI Laboratory Publication

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3. Terminology

3.1 *Definitions:*

3.1.1 *biological agent*, *n*—any bacterium or virus or protein that could be used in biological warfare.

3.1.2 *chain of custody*, *n*—set of procedures to account for the integrity of sample by tracking its handling and storage from point of sample collection to final disposition of the sample.

3.1.3 *cold zone*, *n*—also known as Clean Zone or Support Zone (CPL 02-02-071 Directive); the uncontaminated area where workers are unlikely to be exposed to hazardous substances or dangerous conditions.

3.1.4 *confirmatory analysis*, *n*—analysis that definitively demonstrates the presence or absence of a suspected substance or agent.

3.1.5 *hot zone*, *n*—also known as Exclusion Zone or ExZ (CPL 02-02-071 Directive); the area, located on the site where contamination is either known or expected and where potential for greatest exposure exists.

3.1.6 *on-site biological screening*, *n*—use of available presumptive tests and kits that screen for specific biological agents; these are presumptive tests (see 3.1.8).

3.1.7 *personal protective equipment (PPE)*, *n*—equipment worn or used by workers to protect themselves from exposure to hazardous materials or conditions.

3.1.8 *presumptive test*, *n*—non-definitive test used to screen for the presence of a substance or agent, or the presence of signatures of a substance or agent.

3.1.9 *warm zone*, *n*—also known as the contamination reduction zone or CRZ (CPL 02-02-071 Directive); the transition area between the Exclusion Zone (ExZ or hot zone) and the Support Zone (SZ or cold zone) used to reduce and limit the amount of contamination on people and equipment, and in the air, water, and soil that may be transferred into nonhazardous areas; the CRZ contains decontamination facilities, and functions as a buffer zone surrounding the ExZ.

4. Significance and Use

4.1 Prior to these practices, there have been no validated standard methods by ASTM for collecting, packaging, and transporting suspicious visible powder samples that are suspected biological agents. Successful collection of a bulk powder material from a nonporous surface using a sterile swab and laminated card as the collection devices to move the material into a container will depend on the following factors: *(1)* amount of visible powder; *(2)* sample composition; *(3)* choice of collection device; *(4)* size and shape of the collection container; *(5)* ability of the powder to become aerosolized; *(6)* texture and porosity of the surface; and *(7)* humidity.

4.2 Similarly, prior to these practices, there have been no validated standard methods for sampling suspicious visible powders for on-site analysis, although wipe and swab sampling are often employed in the field. Collecting powder samples from nonporous surfaces using a sterile moistened swab will result in variable success, depending on the following factors: *(1)* swabbing procedure; *(2)* swab material; *(3)* sample composition; and *(4)* texture of the surface.

4.3 These practices standardize suspicious powder collection and packaging procedures and swab sampling procedures in order to reduce exposure risk, to reduce variability associated with sample handling and sample analysis, and to increase reliability of sampling visible powders from nonporous surfaces.

SAMPLE COLLECTION METHOD A—BULK SAMPLE COLLECTION

5. Scope

5.1 This sample collection method applies to the bulk collection and packaging of suspicious visible powders that are suspected biological agents from solid nonporous surfaces.

5.2 These practices are performed after a risk assessment is conducted and a visible powder is deemed a credible biological threat.

[3] Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269-9101.

[4] Available from the International Air Transport Association, 800 Place Victoria, PO Box 113, Montreal-H4Z 1M1, Quebec, Canada.

[5] Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, and also available online from Occupational Safety and Health Administration (www.osha.gov).

5.3 This sample collection method applies to suspicious visible powders that are amassed or dispersed in a limited area where the bulk of the powder sample is in an area that is less than 20 by 20 cm (approximately 8 by 8 in.) or 400 cm^2 (approximately 64 $in.^2$).

5.4 These practices should only be used to collect samples that are suspected biological hazards and that have been screened according to reference guidance for explosive hazards, radiological hazards, and other acute chemical hazards. These practices should only be used with a team of at least two persons. If there are fewer than two persons in the hot zone, the procedure should not be performed.

6. Summary of Sample Collection Method A

6.1 A suspicious visible powder sample that is a suspected biological agent and its source are screened for explosive hazard, radiological hazard, and other acute chemical hazards according to reference guidance (NFPA 471, NFPA 472). If these screenings are negative, the visible powder sample, amassed or dispersed in a limited area, is collected from a nonporous surface using a swab and a laminated card to move the sample into a sterile dry collection container that is held close to the surface.

6.2 The method provides guidance on performing these procedures in a manner that will minimize sample loss and aerosolization of the powder. The bulk powder sample and swab are sent to a laboratory in the CDC Laboratory Response Network for confirmatory analysis.

7. Sampling and Packaging Equipment and Supplies

7.1 *Personal Protective Equipment*—Level A, B, or C as necessary (29 CFR 1910.120 Appendix B, NFPA 1994).

7.2 Clean drop cloth to create a clean work area.

7.3 *Sample Transport Container*—Bucket or large heavy duty plastic bag.

7.4 *Non-powdered Nitrile or Vinyl Examination Gloves*.

7.5 *Two Sterile Polypropylene Wide-mouth Screw-capped Sample Collection Containers (Specimen Containers)*—Volume of 90 to 120 mL, with leak-resistant seal; each pre-labeled as "POWDER SAMPLE" with unique sample identifier numbers.

7.6 *Bleach Solution*—Fresh bleach solution should be prepared outside of the hot zone just prior to use. The fresh bleach solution is prepared by mixing one part household bleach (5.25 to 6.0 % sodium hypochlorite) to nine parts water (v/v).

7.7 *Evidence/Tamper Proof Tape*.

7.8 *Solvent-resistant Indelible Marker*.

7.9 *Sterile Culture Swabs*, (rayon, macrofoam, or polyester) individually packaged and sterile, self-contained in sealed plastic tube, with absorbent material wrapped around one end of a plastic stick, unopened.

7.10 *Two 4 by 6.5 cm (approximately 1.5 by 2.5 in.) Sterile Plastic Laminated Cards*.

7.11 *1-gal Self-sealing Plastic Bag(s)*—Bags with sliding lock and Trademark Whirl-Pak[6] bags are not recommended for this purpose due to sealing problems; the use of colored or opaque bags is discouraged because it makes viewing of the sample more difficult once transported back to the laboratory in the CDC Laboratory Response Network.

7.12 *Two 1-gal Self-sealing Plastic Bags*, pre-labeled as "DRY SWAB" with unique sample identifier numbers.

7.13 *1-gal Self-sealing Plastic Bag*, pre-labeled as "PRIMARY SOURCE" with unique sample identifier number.

7.14 *Two 1-gal Self-sealing Plastic Bags*, pre-labeled as "POWDER SAMPLE" with unique sample identifier numbers.

7.15 *Bucket*, or other container marked "BIOHAZARD WASTE".

7.16 *1-gal Self-sealing Plastic Bag(s)*, pre-labeled as "BIOHAZARD WASTE".

7.17 *Field Screening Results Form*—See example in Appendix X1.

7.18 *Sample Collection Sheet*—See example in Appendix X2. Note that a single sample collection sheet can be used for all items collected at a single location including primary source, swab, and powder sample(s).

7.19 *Chain-of-Custody Form*—See example in Appendix X3.

7.20 *Two Plastic Transparent Document Pouches*, with adhesive on back.

7.21 *Durable Hard-sided Outer Container*, with lid or screw cap, for sample transport (such as metal can with lid, or plastic container with lid).

7.22 *Contact Information*, for local, state, and federal law enforcement, local health officials and local/national testing facilities.

8. Procedure

8.1 These practices are to be employed in support of an incident action site as described and defined by the Incident Action Plan.[7] The practices are to be employed after the Incident Commander performs a risk assessment and the decision to sample has been made. These practices assume that a sampling site/hot zone has already been defined. These practices are to be performed by personnel who are adequately trained to work with hazardous materials in the hot zone (NFPA 471, NFPA 472, and 29 CFR, Part 1910.120).

8.2 Prior to entering hot zone for sampling purposes, proper site safety practices should be implemented, including establishing decontamination areas, and assuring that the PPE used is appropriate for the risk.

8.3 Prior to performing these practices, review the sampling plan and sampling procedures and assemble all necessary equipment before entering the hot zone. At minimum, a two-person team is required to perform these sampling procedures in the hot zone.

8.4 Prior to entering the hot zone for sampling purposes, properly label the two sterile plastic sample collection containers. The sample collection containers are the primary containment for bulk dry powder sample and are labeled as "POWDER SAMPLE" with unique sample identifier numbers on each container. Properly label five 1-gal self sealing bags for the following: *(1)* and *(2)* containment for two dry swabs

[6] Whirl-Pak is a trademark of Nasco International, Inc.

[7] Available at http://www.osha.gov/SLTC/etools/ics/index.html.

labeled as "DRY SWAB" and with unique sample identification numbers; *(3)* primary containment for source of powder (letter or small package) labeled as "PRIMARY SOURCE" and with unique sample identifier number; and *(4)* and *(5)* containment for two sample collection containers labeled as "POWDER SAMPLE" and with unique sample identifier numbers.

8.5 After entering the hot zone, ensure that the sample material is protected from wind currents and moisture until all sampling is completed.

8.6 Perform basic field screening on material prior to sample collection to assess explosive hazard, radiological hazard, and acute chemical hazards (NFPA 471 and NFPA 472). Use methods of analysis to minimize sample consumption, conserving as much of the sample as possible. Ensure that the results of field screening are documented indicating which tests have been performed and their outcome (see example of field screening results form in Appendix X1).

8.7 This instruction is provided for a two-person team to conduct the sampling procedure in the hot zone. The procedure should not be performed if there are fewer than two persons in the hot zone. The first team member (facilitator, also known as clean person) is responsible for communication, photography (Handbook of Forensic Services 2003), ensuring that the sample collection sheet is filled out, and facilitating collection (for example, opening and handing materials to the sampler as required, including sample collection containers, gloves, swab, laminated card, other sampling materials, and packaging materials). The second team member (sampler, also known as dirty person) is the actual sampler and should be the only person to come in contact with the suspicious material. The sampler is also responsible for signing the final chain-of-custody form outside of the hot zone.

8.8 Sampling teams should refer to standard operating procedures regarding the collection of any negative controls.

8.9 All team members put on a pair of non-powdered nitrile or vinyl examination gloves over the gloves that are part of standard PPE ensemble (that is, team members will have two or three or more layers of gloves on). Use appropriate aseptic techniques between samplings to minimize cross contamination.

8.10 *Facilitator*—Lay down the clean drop cloth to create a clean work area, and place materials on drop cloth.

8.11 *Facilitator*—Ensure the following items are documented (see example in Appendix X2).

8.11.1 Unique sample number or identifier,

8.11.2 Sample location and address,

8.11.3 Type of sample,

8.11.4 Time and date of sample,

8.11.5 Names and signatures of persons collecting sample,

8.11.6 Measured size of the area sampled, and

8.11.7 Map of sample area.

8.12 *Facilitator*—If the source of the powder is present on the surface, and the source is a letter or other small package that can fit easily into a 1-gal self-sealing plastic bag, position the pre-labeled bag labeled as "PRIMARY SOURCE" above the surface next to the source, and hold the bag open.

8.13 *Sampler*—Place the source gently into the plastic bag. Make sure all writing and markings are visible through the bag. If possible, take a digital photograph of the source.

8.14 *Facilitator*—Seal the bag. Place the sealed bag containing the source into another transparent self-sealing bag.

8.15 *Facilitator*—Seal the bag and place into sample transport container for decontamination.

8.16 *Facilitator*—Give laminated card to sampler. Loosen the cap of the tube containing the swab.

8.17 *Sampler*—Remove the swab from the tube while the facilitator holds the tube. Hold the laminated card at an angle on the surface next to the powder. If the surface is smooth, use the card to push the powder into a pile on the surface. On all surfaces (smooth or rough), use the sterile swab to gently push the dry powder onto the laminated card. Be sure to use slow, deliberate motions while moving the powder.

8.18 *Sampler*—Place swab firmly into tube held by the facilitator, taking care not to touch the outside of the tube with the swab.

8.19 *Facilitator*—Open the sample container labeled as "POWDER SAMPLE" and hand the open container to the sampler.

8.20 *Facilitator*—Place the tube containing the swab into a transparent self-sealing bag labeled as "DRY SWAB". Seal the bag, and place into sample transport container for decontamination.

8.21 *Sampler*—Hold the sample collection container on its side parallel to the surface and place the laminated card (with the powder on top) into the sample collection container. Do this slowly and gently so as to minimize aersolization of the powder.

8.22 *Sampler*—Take the lid from the facilitator and place the lid on the sample collection container containing the laminated card and dry bulk powder.

8.23 *Sampler*—Place the closed, pre-labeled container containing the dry bulk powder into a transparent self-sealing bag held open by facilitator. Do not touch the outside of the bag.

8.24 *Facilitator*—Seal the bag and place into sample transport container for decontamination.

8.25 If the pile of powder is too large to collect it all using a single laminated card and swab, repeat steps 8.15 through 8.24 with a new card, swab, and pre-labeled sample collection container.

8.26 If there is residual powder and conditions allow for the team to remain in the hot zone, the team should perform Sample Collection Method B now prior to leaving the hot zone.

8.27 Sampling team transports all samples out of the hot zone and into the decontamination line in the warm zone.

8.28 *Facilitator*—Rinse or wipe the outside of the sealed plastic bags containing the primary source, powder sample(s), and swab(s) with fresh bleach solution collecting the bleach runoff into the container marked "BIOHAZARD WASTE".

8.29 *Facilitator*—Place the rinsed, sealed bags containing the primary source, powder sample(s), and swab(s) into separate self-sealing plastic bags and seal.

8.30 Any unused supplies that were carried into the hot zone (plastic bags, sample containers) should also be placed into "BIOHAZARD WASTE" bag(s).

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8.31 *Facilitator and Sampler*—After following all proper personnel decontamination procedures (NFPA 471 and NFPA 472), move the samples to the cold zone. Place the rinsed, sealed bags into a durable hard-sided outer container. Place the lid on the container.

8.32 *Facilitator and Sampler*—Seal the durable outer container with evidence/tamper-proof tape so that the tape covers all surfaces where the lid and container meet. Initial and date the evidence/tamper-proof tape with the indelible marker.

8.33 *Facilitator or Sampler*—Transfer all sample and field screening information to a clean sample collection sheet and field screening results form in the cold zone.

8.34 *Facilitator or Sampler*—Transfer all unique sample numbers or identifiers and other pertinent information from the sample collection sheet onto a chain-of-custody form (see example in Appendix X3).[8]

8.35 *Facilitator or Sampler*—Attach a self-sticking document pouch to the durable outer container. Place the clean sample collection sheet and field screening results form (and any additional paperwork or documentation as designated by the submitting agency) inside the document pouch. Place evidence/tamper-proof tape over the opening of the document pouch and initial and date the tape with the indelible marker.

8.36 *Sampler*—Sign a chain-of-custody form at the evidence receiving area. Hand the package to the person who is responsible for transporting the package (transporter).

8.37 *Transporter*—Examine the package to determine that it is properly packaged and sealed, and that the chain-of-custody form is completed. Sign the original chain-of-custody form. Give one copy of the form to the submitter (sampler) and retain the original form. Place the original signed chain-of-custody form into a second self-sticking document pouch and adhere to the outside of the package. Transport all specimens under secure conditions to the predesignated, approved laboratory in the CDC Laboratory Response Network. Any transfers of the materials from one person to another should be documented on the chain-of-custody form with signatures.

8.38 The primary source, powder sample(s), and swab(s) are transported under chain-of-custody to the appropriate laboratory in the national response network in a manner that complies with all state and federal regulations (IATA PI 602, IATA PI 650, IATA DGR, 46th Edition, IATA DGR, Addendum I, IATA DGR, Addendum II, IATA DGR, Addendum III, and 49 CFR, Parts 171-180). All materials are maintained under chain of custody in a secure and biosafe area at the laboratory in the CDC Laboratory Response Network until testing is completed.

SAMPLE COLLECTION METHOD B—SWAB SAMPLE COLLECTION FOR ON-SITE ANALYSIS

9. Scope

9.1 This sample collection method applies to swab sampling of suspected biological powders from nonporous surfaces to collect residual powder. Swab sampling produces a sample that may be used for on-site biological screening and presumptive testing.

9.2 These practices are performed only after collecting the bulk sample in the hot zone as described in Sample Collection Method A-Bulk Sample Collection.

9.3 These practices should only be used to collect samples that are suspected biological hazards and that have been screened for explosive hazard, radiological hazard, and acute chemical hazards.

10. Summary of Sample Collection Method B

10.1 A nonporous surface from which a suspicious visible bulk powder, a suspected biological agent, has previously been collected is swabbed using a moistened swab to collect any residual powder. The sample may be used for on-site biological screening and presumptive testing.

11. Sampling Equipment and Supplies for Sample Collection Method B

11.1 *Personal Protective Equipment*—Level A, B, or C as necessary (29 CFR 1910.120 Appendix B and NFPA 1994).

11.2 Sample collection tools are the following: *(1)* sterile culture swab (rayon, macrofoam, or polyester), individually packaged and self-contained in sealed plastic tube, with absorbent material wrapped around one end of a plastic stick, and, if available, *(2)* sample collection device provided by manufacturer of the on-site biological screening kit.

11.3 Sterile solutions for moistening the swab are as follows: *(1)* sterile vial with lid, pre-labeled as "BUFFER," containing minimally 0.5 mL of Phosphate Buffered Saline (PBS) solution with 0.1 % Trademark Tween-20[9]; and, if available, *(2)* buffer solution from manufacturer of on-site biological screening kit if required by manufacturer.

11.4 *1-gal Self-Sealing Bag*—Pre-labeled as "WET SWAB" with unique sample identifier number.

11.5 *Sample Collection Sheet.*

12. Procedure

12.1 *Sampler*—The residual powder that remains on the surface following bulk powder sample collection may be used for on-site biological screening. Follow instructions provided by the manufacturer regarding sample collection for on-site biological screening using a commercially available kit. Despite the fact that it appears that little powder remains, there should be sufficient amount remaining to conduct on-site biological screening analysis. Personnel performing on-site screening should be adequately trained in the use of biological screening technologies.

12.2 *Facilitator*—Record results of on-site biological screening. Since this sample is consumed for on-site analysis, a chain-of-custody form is not needed.

12.3 If there is a significant amount of residual powder remaining on the surface after on-site biological screening; or if there is significant amount of residual powder on the surface and the team does not have the capability to perform on-site

[8] Prior to shipping any specimen suspected to contain a biological agent, contact your state public health laboratory or nearest laboratory in the national response network (currently the CDC Laboratory Response Network) for specific guidance. Any materials that might be used as evidence in any investigation must be controlled by a chain of custody at all times.

[9] Tween-20 is a trademark of ICI Americas, Inc.

biological screening, perform Steps 12.4 through 12.11 to collect residual powder for packaging and transport to the LRN.

12.4 *Facilitator*—Remove the lid from the vial labeled as "BUFFER" and hand the vial to the sampler. Loosen swab from tube (but do not remove swab) and hand tube with swab to sampler. Sampler holds the tube and "BUFFER" vial in the same hand.

12.5 *Sampler*—Remove swab from tube and place into "BUFFER" vial to moisten, using aseptic technique to prevent cross contamination. Place the swab against the side of the vial to remove excess liquid. Remove swab from "BUFFER" vial and drop "BUFFER" vial into biohazardous waste container.

12.6 *Sampler*—Wipe the swab over the surface where the powder was originally found, using closely spaced vertical S-strokes or Z-strokes over the entire sampling area.

12.7 *Sampler*—Roll the swab handle (end of the plastic stick furthest from absorbent material) between fingers to rotate the swab, thereby exposing a fresh surface. Wipe the swab over the entire area again, this time using horizontal S-strokes or Z-strokes over the surface. The recommended wipe area is <400 cm^2 (64 $in.^2$).

12.8 *Sampler*—Place swab into tube, and seal tube by pressing firmly.

12.9 *Sampler*—Place the closed tube containing the swab into a transparent self-sealing bag labeled as "WET SWAB" held open by the facilitator. Do not touch the outside of the bag.

12.10 *Facilitator*—Seal the bag, and place into sample transport container for decontamination.

12.11 Continue with procedure in 8.27 through to the end of Method A.

13. Keywords

13.1 packaging; sample collection; suspicious powders; swab

APPENDIXES

(Nonmandatory Information)

These appendices provide example forms for the user. Use of these specific forms is not mandatory.

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X1. EXAMPLE OF FIELD SCREENING RESULTS FORM

X1.1 See Table X1.1.

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