**Boulder County Hazardous Materials Team**

Sample Collection

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| Guideline Number | 3004 |
| Approved By | Advisory Committee |
| Date | 12-16-19 |

**Scope:** This guideline applies to all members of the Boulder County Hazardous Materials Team

**Purpose:** To outline the policy and procedure for the collection and retention of samples taken by the Boulder County Hazardous Materials Team

**Guideline:**

**General Information:**

* The Boulder County Hazardous Materials Team (BCHMT) maintains the ability to collect samples of materials and products on scene for the purpose of preliminary field identification and law enforcement needs.
* Preliminary field identification is a necessary and fundamental component of hazmat team operations as it helps identify unknown materials and provides information that may otherwise be unavailable to help drive decision-making by Hazmat Team Supervisors and Incident Commanders.
* The BCHMT has adopted a sampling procedure that closely mirrors the Federal Bureau of Investigation’s 12-step sampling process. The purpose of the BCHMT’s sampling policy and procedure is to minimize cross contamination, ensure products can be submitted for laboratory analysis, and maintain chain-of-custody so that samples can be used for the prosecution of criminal activity.
* The BCHMT uses a standard sampling protocol to ensure that samples are obtained consistently at all incidents, however, the procedure is not intended to include all aspects of crime scene processing procedures. In the event that there are incident parameters that require highly specific collection techniques or in-depth crime scene processes, it may be necessary to seek additional guidance and expertise from the FBI or other law enforcement agency.

**Types of Samples:**

* The most common type of sampling done by the BCHMT is referred to as Public Safety Sampling which is intended to serve as the primary means for field screening and preliminary identification of substances encountered.
* Law Enforcement agencies may request the skill and expertise of the BCHMT in collecting samples for the prosecution of suspected crimes. In this instance, the samples will be referred to as Law Enforcement Samples.
* It is understood that it is possible that any sample collected by BCHMT personnel at any point during an incident can become evidence in a criminal trial. As such, all samples, regardless of whether or not they are Public Safety Samples or Law Enforcement Samples will be collected using the same procedure.

**Sample Retention:**

* All Law Enforcement Samples that are obtained by the BCHMT will be logged and kept in accordance with the policies and procedures of the Law Enforcement agency for which they are being gathered. It is the responsibility of the Law Enforcement Officers on scene to ensure that the evidence is held in a satisfactory manner to ensure its forensic viability.
* In the event that both Public Safety and Law Enforcement Samples are taken on an incident, ALL samples will be provided to the accepting Law Enforcement agency to ensure that samples collected are available for criminal prosecution and defense purposes.
* At no time will the BCHMT retain or take ownership of any samples taken at any incident.

**Sample Destruction:**

* The majority of responses involving the BCHMT do not become criminal cases and are not scenarios where it is necessary to preserve samples for extended periods of time. Recognizing this, it is the policy of the BCHMT that samples are not required to be kept and maintained if there is no immediately identifiable reason to suspect criminal intent.
* It is the responsibility of the Incident Commander and the Hazmat Group Supervisor on scene to determine if there are adequate reasons to require the storage of hazardous materials samples and such a decision may be made following any consultation with Law Enforcement Supervisors on scene. If there is no anticipation of any criminal charges being brought, the samples that have been collected are not required to be stored and will be destroyed.
* The BCHMT does not maintain its own catalog or storage systems, and as a result, all samples must be held by a Law Enforcement Agency that can effectively secure evidence.
* Due to the nature of Hazardous Materials scenes, the possibility exists where samples that are collected may be too dangerous, too volatile, or otherwise too hazardous to be stored using standard procedures. In instances where the substances cannot be safely and securely maintained (i.e. due to their chemical/physical properties, size, or extreme hazard) it is acceptable to destroy those collections if no other arrangements can be made where the sample may be held.

**Collection Procedure:**

* Samples will be collected in two person teams to facilitate the collection process and minimize the likelihood of contamination of product and personnel.
* Sampling teams may obtain multiple samples of individual products and may also take samples from multiple products on any given entry. There is no expressed limit to the number of samples that may be collected except where practicality (air supply, lack of sampling equipment, etc.) may limit the team’s ability to proceed.
* When taking multiple samples of the same product, the Law Enforcement Sample should be taken first to alleviate any likelihood of cross contamination. **The exception to this rule would be if collection of a Law Enforcement sample will significantly delay the collection of a sample needed for a field safety screening OR where there is insufficient product present for collection, in which case the collection for analysis for field screening and laboratory testing takes priority.**
* Prior to the collection of any samples, an action plan should be discussed by the Hazmat Group Supervisor, the Entry Team Leader, and Entry Team Members to establish and explain the intended mission.
* It is important that the Sampling Team utilize aseptic collection techniques to minimize cross-contamination and ensure the sample is free of artifact. If sampling instruments are factory sealed, team members should keep those sampling items factory sealed until they are ready to be used. When removing a sampling tool from its packaging, never touch the sampling end of the tool that contacts the product. Never set sampling tools down, except on a clean pad. If a tool is dropped a fresh tool must be used to take the sample. The quality of the sample depends on practicing good antiseptic techniques.
* Each sample that is collected will be labeled with its location of collection and description. If multiple samples are to be taken in the same entry, change gloves by removing and replacing a layer of gloves between each sample.
* It is the role of the Facilitator (person who does not collect the raw sample) to provide the necessary tools to the Entry Team member performing the sampling. The Facilitator always keeps their hands above the Collector’s hands when presenting the sampling tools to the Collector. This technique will minimize the potential of the suspect materials from falling on the Facilitator. This will also help minimize the cross contamination of the clean sample collection and packaging components.
* The Collector is the Sampling Team member that is responsible for physically collecting the sample. The Collector has the highest potential of becoming contaminated with the target material. When sampling, collect the sample in a manner that minimizes the disruption of the scene and minimizes dispersion of the sample. Remember, some materials will become airborne if collected in a disruptive manner, such as creating air currents, applying pressure to the sample or energetic collection technique. When collecting samples, apply parafilm around the cover to further seal the collection container and prevent leakage. *Once a sampling tool is used to collect a sample, it cannot be reused to collect samples of a different product.*
* The Facilitator is responsible for sealing and transporting bags containing sealed samples to the decontamination corridor. The Collector should not handle or manipulate bagged samples due to the potential for contamination to the collected product.
* The Collector is responsible for bagging and transporting waste materials generated during the sampling process. The Facilitator should not handle or manipulate waste materials due to the potential for contamination to the collected product.

**Laboratory Submission:**

* In circumstances where the FBI or local Law Enforcement require definitive analysis of a material, the Hazmat Group Supervisor must solicit the assistance of the Regional FBI WMD Coordinator who will ensure that the BCHMT has performed and documented the necessary field screenings prior to Law Enforcement transporting hazardous materials to an appropriate laboratory.
* Such field screenings should consist of and be limited to the following:
	+ pH (for liquids)
	+ Radioactivity
	+ Volatile Organic Compounds
	+ Flammability
	+ Oxidizing Agents
* Definitive identification of product’s composition must be performed in an appropriate laboratory and no field screenings are intended to take the place of or supersede laboratory analysis.

**Additional Information and Considerations:**

* Any entry where Law Enforcement Samples are being collected by the BCHMT requires a Law Enforcement Officer/Agent to join the sampling team downrange, to oversee the collection of the material and ensure a continuous chain of custody, unless such an arrangement creates greater danger or safety concerns.
* When samples are taken, it is crucial to create a kit of “blanks” that can be maintained and submitted to a laboratory for verification that BCHMT equipment did not inadvertently contaminate the samples. This kit should consist of one piece of each sampling item brought down range (gloves, clean work surface, pipettes, etc.). Be mindful that multiple lot numbers or boxes of materials might have been used on scene, in which case one piece of equipment from every lot number should be included as a blank.
* A camera should be taken into the hot zone on all incidents where Law Enforcement samples are being collected by the Sampling Team. Photographs will be taken of the area where the sample is collected before and after sampling. Following this photographic guideline will demonstrate, through the images, that the area was not altered during sampling to the extent that it would invalidate the evidence.