



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

Forensic Chemistry Standard Operating Procedure Manual Examination and Quantity Determination of Evidence

10.0 EXAMINATION AND QUANTITY DETERMINATION OF EVIDENCE

10.1 General Examination Guidelines

- 10.1.1 It is the analyst's responsibility to verify all evidence details against the submittal form information. The submitting agency will be contacted in the event of a major discrepancy, and a phone log will be included in the case folder documenting this communication and the subsequent resolution prior to analysis. The analyst may also document this communication in LIMS.
- 10.1.2 A physical characterization of each submitted item will be conducted and documented in the case file. Exhibits that are not visible in their external packaging must be opened to verify the contents are consistent with the submittal form.
- Evidence submissions containing an excessively large number of items that will not be analyzed can be photographed in lieu of a written inventory. A printed photograph will be included in the case file for administrative documentation.
- 10.1.3 The analyst will make every attempt to note quantities of items present in case notes. Quantity types may include, but are not limited to, tablet counts, net weights, and gross weights.
- 10.1.4 Any unanalyzed exhibits shall be documented in the case file. Refer to the Reporting chapter for reporting guidelines.
- 10.1.5 The physical combination of evidence items is not permitted.
- 10.1.6 Every attempt should be made to preserve the evidence in its original packaging if possible. However, evidence may be repackaged for safe handling if it contains hazardous items.
- 10.1.7 Evidence itemization and characterization will not be required if the request for examination has been withdrawn by the District Attorney or requesting agency. Submitted items that are not verified in this instance may be described as *Evidence* in the description on the Official Forensic Chemistry Report.

10.2 Exhibit Prioritization Strategy

- 10.2.1 The TBI FCU exhibit prioritization strategy allows for the analysis of submitted cases to the highest penalty phases while maximizing laboratory case output. The most significant exhibit in terms of suspected schedule and/or weight enhancement thresholds will be analyzed in multiple item cases except as noted in sections 10.2.6 through 10.2.10.
- 10.2.2 TCA §39-17-417 identifies controlled substances that have weight enhancement thresholds and the penalties associated with these thresholds. This information is available in the Weight Threshold reference sheet in Ensur.
- 10.2.3 Exhibits are prioritized as follows:
1. Any exhibit(s) containing controlled substances in which the exceeded weight threshold would make the charge a Class A Felony

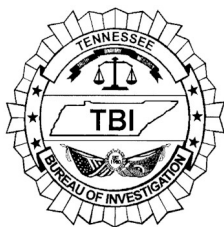


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2. Any exhibits(s) containing controlled substances in which the exceeded weight threshold would make the charge a Class B felony and/or Schedule I controlled substances that would not exceed weight thresholds
 3. Schedule II controlled substances that would not exceed weight thresholds; other controlled substances that would be a Class C felony
 4. Schedules III and IV controlled substances; plant material exhibits in Schedule VI that would make the charge a Class D felony; introduction of legend drugs and/or controlled substances into a penal facility (a Class D felony)
 5. Schedule V controlled substances; plant material exhibits in Schedule VI that would make the charge a Class E felony (including charges of manufacturing for less than 10 marijuana plants); extracts of THC including, but not limited to, vape cartridges, edibles, and oils.
 6. Schedule VII controlled substances
 7. Any other legally significant substances listed in TCA §39-17-4
- 10.2.4 If none of the exhibits will meet a weight threshold, the analyst will fully analyze one of the possibly highest scheduled drugs present except for pharmaceutical preparations. Refer to the section 12.5 for further information about analysis of pharmaceutical preparations.
- 10.2.5 For exhibits that will exceed a weight threshold, the analyst will work enough exhibits/units to satisfy that requirement even if they would go over one exhibit.
- 10.2.6 A single unit in a clandestine preparation exhibit is required for analysis and reporting purposes. The weight of this unit will be documented in the case notes. Additional units may be analyzed and reported if necessary.
- 10.2.7 Paper square or strip exhibits will not routinely be worked to exceed weight thresholds without a request from a District Attorney. A single unit in a paper exhibit is required for analysis and reporting purposes. The weight of this unit will be documented in the case notes. Additional units may be analyzed and reported if necessary. Units may be defined as a single sheet, square, or strip.
- 10.2.8 In the event that no controlled substances are detected in a chosen exhibit, the analyst will proceed to work additional exhibits until the highest scheduled controlled substance that could be present is fully identified apart from pharmaceutical preparations as described in section 12.5.
- 10.2.9 Multi-item submissions that have multiple subjects may require more than one exhibit to be worked if the evidence and/or Request for Examination form clearly indicates which subject possessed the exhibit(s).
- 10.2.10 Death investigations may require analysis of more than one exhibit. Refer to the Death investigations chapter for further information.
- 10.2.11 The unit supervisor or Technical Leader will reserve the right to require additional exhibit testing if deemed necessary.



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10.2.12 Attorney requests for additional analysis of exhibits must be submitted in writing and will be approved by laboratory management on a case-by-case basis. Consult the Sampling and Analytical Schemes and Guidelines chapters on how to analyze these requests for additional analysis.

10.2.13 The analyst should consult their supervisor if they have questions regarding the categorization of exhibits under this strategy.

10.3 Overdoses and Death Investigations

Due to the complex nature of exhibits involved in the above circumstances, the TBI FCU has developed separate handling, quantity determination, analysis and reporting guidelines and/or requirements for these cases. Refer to the Death Investigation chapter for this information.

10.4 Suitability for Analysis

10.4.1 Upon general examination, the analyst may determine that a submitted item is unsuitable for analysis due to the condition in which it was received, lack of testable material or other safety concerns. The analyst must document in their case notes the rationale for this determination. The following list includes several items that the TBI FCU has deemed unsuitable.

- Decomposing and/or degraded materials.
- Suspected cannabis seeds
- Cigarette butts and cigar butts (unless they are the only exhibit in the case)
- Tablet fragments that do not have complete, identifiable markings (unless they are the only exhibit in the case)
- Field test kits or items that have been subjected to field test kits **and** have no testable material remaining
- Containers or other items that do not have any visible residue

10.4.2 Syringes and paraphernalia (including, but not limited to, pipes, spoons, and filtering material present on spoons) will be analyzed if they are the only exhibit in the case, are part of a death/overdose investigation, or are requested in writing by the prosecuting attorney. Refer to the Reporting chapter for additional information about reporting requirements.

10.4.3 Exhibits that will not allow the analyst to conduct at minimum two different analytical techniques on separate samples of the exhibit **and** preserve at least half for independent analysis will be considered as insufficient for analysis. Consult the Reporting chapter for reporting instructions.

10.5 Quantity/Weight Determination

10.5.1 A weight for each exhibit must be determined except for specific circumstances outlined in sections 10.5.8 through 10.5.10. Net weight is defined as the weight of *only* the substance found in the exhibit. Gross weight is defined as the weight of the entire packaging *and* contents.

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- 10.5.2 Net weights are routinely obtained for each exhibit. Circumstances may dictate that gross weights are obtained and will be documented in the case file. Items that contain a small amount of material that adheres to the packaging can be considered as a residue.
- 10.5.3 Weights that are below 0.04 grams on the dual range gram balance will be reported as a residue.
- 10.5.4 Consult 14.2.4 prior to making any weight determinations on pound balance for the following
- Items that weigh less than the measurement of uncertainty for the pound balance
 - Any exhibits that will exceed 99 pounds
- 10.5.5 Plants and/or their cuttings may be weighed. Making an accurate count of individual plants can be difficult since they often break apart from root structures or become tangled with each other during routine evidence handling. Therefore, law enforcement agencies will be responsible for counting plants when the number of plants is legally significant.

In the event an agency submits individually packaged plant samples, the analyst may choose to work either to the weight threshold (if one will be reached), **or** the analyst may work enough individually packaged samples to satisfy plant threshold counts as listed in TCA §39-17-417, whichever is more efficient for analysis. These samples can be referred to as units.

- 10.5.6 Liquid exhibits of five (5) milliliters or more will be weighed, and an approximate volume will be listed in the description.
- The word “approximately” must be used in any specific volume description since the uncertainty in volumetric measurements for casework other than total THC quantitation has not been determined by the TBI FCU.
- 10.5.7 Liquid exhibits less than five (5) milliliters will have the description of *less than five (5) milliliters*.
- Refer to the Reporting chapter for reporting instructions.
- 10.5.8 Refer to Section 11.7.1 for examination of factory-crimped injection vials, vape cartridges, and/or other liquids that are hazardous to remove from packaging.
- 10.5.9 Pharmaceutical preparations as listed in section 12.5 will be counted or a net weight will be obtained for reporting purposes.

Alternately, the analyst may determine an approximate unit count from a representative weight of units.

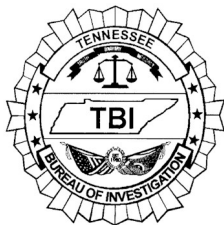
The following guidelines have been established for this process.

- The analyst will take the net weight of a random selection of 10 completely intact units to determine the average unit weight. Broken tablets and fragments must not be used to determine this average.
- A net weight of all units will be obtained and then divided by the average tablet weight to obtain the **approximate** number of tablets.
- If the resulting number has a decimal remainder, the number will be truncated.

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- ❖ Example – 215.7 approximate tablets were calculated using this process. The report would indicate approximately 215 tablets were present.

Consult the Reporting chapter for the accepted methods of reporting these preparations.

10.5.10 The analyst should consult their supervisor when making a weight or quantity determination for an exhibit could compromise the analyst's safety.

10.6 Requests for Quantitation

Quantitation of exhibits other than total tetrahydrocannabinol (THC) in plant material will not be performed. If a quantitation is requested for an exhibit, the TBI FCU will require written documentation from the US or District Attorney General's Office stating that a quantitation is required. Once this documentation is received, the case will be transferred to the Drug Enforcement Agency laboratory for analysis. This transfer will be recorded in LIMS, and the submitting agency will be notified. The case will be cancelled in LIMS to remove it from the TBI FCU case list if necessary.