

# FBI Approved Standards for Scientific Testimony and Report Language for Explosives Chemistry Analysis

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# FBI Approved Standards for Scientific Testimony and Report Language for Explosives Chemistry Analysis

## 1 PURPOSE

This document provides examples of the scientifically-supported conclusions and opinions approved for reporting examination conclusions and offering expert witness opinion statements during testimony by examiners who conduct explosives chemistry examinations in the FBI Laboratory. These examples are not intended to be all inclusive and may be dependent upon the precedent set by the judge or locality in which a testimony is provided. These examples are not intended to serve as precedent for other forensic laboratories and do not imply that statements by other forensic laboratories are incorrect, indefensible, or erroneous.

## 2 SCOPE

This document applies to examiners who prepare *Laboratory Reports (7-1, 7-1 LIMS)*, and/or provide expert witness testimony in explosives chemistry analysis. This document does not apply to employees who provide fact witness testimony.

## 3 RESPONSIBILITIES

- A. The examiner will ensure that a *Laboratory Report* complies with the statements contained within this document, when applicable.
- B. The examiner will ensure that his/her testimony is consistent with the standards contained within this document, when applicable.

## 4 STATEMENTS APPROVED FOR FBI EXPLOSIVES CHEMISTRY ANALYSIS TESTIMONY AND/OR LABORATORY REPORTS

For more detailed guidance on explosives chemistry report writing, see the Explosives Chemistry Report Writing Guidelines.

- A. The examiner may report analytical findings and/or state opinions/conclusions about the presence or absence of a targeted chemical or product (e.g., explosives, explosive precursors, explosive reaction products, general unknowns).
- B. The examiner may report and/or state opinions as to the identification or chemical classification (if identification was not achieved) of a substance. The examiner may also report and/or state the general properties and potential uses of the substance or class of substances.
- C. The examiner may report and/or state an opinion that the conclusions apply to the entirety of an item (or a percentage of the item) when there is a reasonable assumption of homogeneity of the item or a statistical sampling plan was used.
- D. The examiner may report results of examinations and/or state opinions/conclusions regarding a chemical comparison that was performed between items, provided that the opinions/conclusion are supported by the appropriate chemical analyses.

- E. The examiner may report and/or state a determined quantity of a substance (e.g., weight, volume, purity, concentration) when a validated quantitative method was used. The reported/stated quantity will include an associated estimated measurement uncertainty and confidence level.
- F. The examiner may report and/or state an opinion about an estimated quantity of a substance (e.g., weight, volume, purity, concentration) when a validated quantitative method was not used, as long as the method(s) used is reliable for such estimation and it is clearly stated that the estimate is not the result of a validated quantitative method.
- G. The examiner may report and/or state the limitations of his/her examinations and opinions.
- H. The examiner may report and/or state general explosive science terms and principles.

## **5 STATEMENTS NOT APPROVED FOR FBI EXPLOSIVES CHEMISTRY ANALYSIS TESTIMONY AND/OR LABORATORY REPORTS**

- A. The examiner may not state or imply that two chemicals, chemical mixtures, or chemical products originated from the same source to the absolute exclusion of all other sources.
- B. In cases involving comparisons of items, an examiner generally may not report and/or state an opinion about the exact source of a chemical or material. However, there may be instances when this is acceptable (e.g., chemical 'tags' were incorporated in the sample(s), entire population of comparison item was tested).
- C. An examiner may not report or testify to hazardous device determinations.

## **6 LABORATORY REPORT REVIEWS**

The content of an explosives chemistry *Laboratory Report* will be reviewed per [Explosives Quality Assurance and Operations Manual](#), ensuring compliance with the approved statements in this document.

## **7 TESTIMONY REVIEWS**

Explosives chemistry testimonies will be reviewed in accordance with the [FBI Laboratory Quality Assurance Manual](#). The review will ensure compliance with the statements in this document.

## **8 REFERENCES**

Explosives Quality Assurance and Operations Manual

Explosives Chemistry Report Writing Guidelines

FBI Laboratory Quality Assurance Manual

FBI Laboratory Operations Manual

## 9 REVISION HISTORY

Revision	Issued	Changes
04	07/01/2022	Updated to new document template. Removed fire debris throughout. Removed resultant damage statement from section 5, bullet C.