

## **Chemistry Unit (CU)**

# **FBI Approved Standards for Scientific Testimony and Report Language for Paints and Polymers Materials**

### **1 Purpose**

This document provides examples of the scientifically-supported conclusions and opinions approved for reporting examination conclusions and offering expert opinion statements during testimony by Paints and Polymers Examiners. It is noted that 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. Further, 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 Chemistry Unit employees who prepare an FBI *Laboratory Report* and/or provide testimony related to Paints and Polymers materials. This document does not apply to Chemistry Unit employees who provide fact witness testimony.

### **3 Responsibilities**

**3.1** The Examiner will ensure that a *Laboratory Report* is consistent with the approved language contained within this document as well as the *Paints and Polymers General Approach to Report Writing*.

**3.2** The Examiner will ensure that testimony related to Paints and Polymers examinations is consistent with the statements contained within this document.

**3.3** The Technical and Administrative Reviewers will ensure compliance of Paints and Polymers *Laboratory Reports* with the statements contained within this document as well as the *Paints and Polymers General Approach to Report Writing*.

### **4 Statements Approved for FBI Paints and Polymers Testimony and/or Laboratory Reports**

For more detailed guidance on report writing regarding Paints and Polymers materials, see the *Paints and Polymers General Approach to Report Writing* standard operating procedure (SOP).

- An examiner may report and/or state an association between two or more items based on their physical and/or chemical properties. For the large majority of such cases, these associations are limited to class characteristics and, as such, are not individualizing.
- The examiner may report and/or state the relative strength of the association. The degree to which this association is qualified is stated in the report of examinations using the *Comparison Conclusion Scale* that is defined in the *Paints and Polymers General Approach to Report Writing SOP*.
- The examiner may report and/or state that additional significance may be given to examples of cross-transfer and/or if multiple types of evidence appear to have transferred from one source to another.
- An examiner may report and/or state that an *Elimination* is the determination that two paint/tape/polymer items did not originate from the same source due to sufficient differences in their physical or chemical properties.
- The examiner may report and/or state the limitations of his/her examinations and opinion.
- An examiner may report and/or state the polymeric composition of an item according to the terms described in the *Characterization Conclusion Scale*, as well as the possible common uses of the material.
- An examiner may report and/or state the likely manufacturer of an automotive paint or duct tape based on resources available to the FBI Laboratory (e.g., databases, industry contacts) according to the terms described in the *Characterization Conclusion Scale*.
- An examiner may report and/or state that an *Inconclusive* is the inability to reach a conclusion.
- An examiner may report and/or state the manufacturing process used to produce a paint/tape/polymer item and may explain the variability possible between products.
- An examiner may report and/or state the batch size involved in production, such as how many single rolls can be produced from a jumbo duct tape roll or how many vehicles from an assembly line might contain the same paint layer system.
- An examiner may report and/or state the application process used to paint an item when the physical characteristics permit such an inference.

## **5 Statements Not Approved For FBI Paints and Polymers Testimony and/or Laboratory Reports**

- An examiner may not state or imply that the methods used in conducting paint/tape/polymer comparisons have a zero error rate.
- An examiner may not state or imply a statistical weight or degree of certainty in the conclusions that is absolute or numerically calculated.
- An examiner may not state or imply that a conclusion has been reached to within a “reasonable degree of scientific certainty” as this term has no basis in scientific inquiry or research and has been strongly discouraged for use by the National Commission on Forensic Science.
- An examiner will not cite the number of Paints and Polymers examinations performed in the span of a career as a direct measure for the accuracy of the proffered conclusion. (An examiner may cite the number of Paints and Polymers examinations performed within the span of a career for the purpose of establishing, defending, or describing the stated qualifications or experience.)

## **6 Laboratory Report Reviews**

The content of a Paints and Polymers *Laboratory Report* will be reviewed per the *FBI Laboratory Quality Assurance Manual*, *FBI Laboratory Operations Manual*, and the *Chemistry Unit Case Record and Review Procedures*, as well as the *Paints and Polymers General Approach to Report Writing* to ensure compliance with the statements in this document.

## **7 Testimony Reviews**

Paints and Polymers testimonies will be reviewed following the *FBI Laboratory Operations Manual*. The review will ensure compliance with the statements in this document.

## 8 References

*Paints and Polymers General Approach to Report Writing SOP.*

*Chemistry Unit Case Record and Review Procedures, Chemistry Unit Quality Assurance and Operations Manual.*

ASCLD-LAB-International Supplemental Requirement for the Accreditation of Forensic Science Testing and Calibration Laboratories. American Society of Crime Laboratory Directors/Laboratory Accreditation Board, Garner, NC, 2011.

FBI Laboratory Quality Assurance Manual. Latest Revision.

FBI Laboratory Operations Manual. Latest Revision.

[www.justice.gov/ncfs](http://www.justice.gov/ncfs), NCFS Meeting #9 - March 21-22, 2016

Rev. #	Issue Date:	History:
0	05/23/14	New document.
1	08/31/15	Changed second bullet in Section 4 to reflect the change made to the SOP <i>General Approach to Report Writing in the Paints and Polymers Subunit</i> , where “Level” has been replaced by “Type” and the number of designations has been changed from V to IV.
2	02/27/18	Removed term “subunit” throughout, added <i>Characterization Association Scale</i> and error rate mitigation in Section 4 and deleted specific scenario examples; stated no support for “reasonable degree of scientific certainty” in Section 5; editorial changes throughout to align with latest version of LOM.
3	01/15/20	Deleted section 3.4 since now covered in the LOM; amended statement approved for an <i>Inconclusive</i> result; added an additional statement to the not approved language section (section 5); minor grammatical changes; removed QA approval line

**Approval**

Redacted - Signatures on File

Paints and Polymers  
Technical Leader:

Date: 01/14/2020

Chemistry Unit Chief

Date: 01/14/2020