INDIANA STATE POLICE LABORATORY DIVISION

PHYSICAL EVIDENCE BULLETIN

PAINT AND PLASTIC EVIDENCE

I. INTRODUCTION

A. Paint and plastic evidence can be encountered as physical evidence in many different types of incidents including vehicle crashes and breaking and entering cases.

B. Paint and plastic evidence is typically associative (or class) evidence unless a fracture match of paint or plastic pieces is found.

C. For most paint and/or plastic cases, it is required to submit both a questioned item and a standard from a known source (e.g., vehicles suspected to be used in a crime) for comparison purposes.

D. If original equipment manufacturer (OEM) automotive paint evidence is found in a no-suspect hit and run, the paint can be analyzed to attempt to determine a potential make and model of the suspect vehicle.

II. TYPES OF CASES

A. Vehicle Crashes

1. When a vehicle is involved in an accident, often paint and/or plastic evidence is left behind.
2. If a vehicle strikes another vehicle (or other painted object), there can be a double transfer of paint and/or plastic. The transferred paint and/or plastic, along with known paint and/or plastic standards from any damaged surfaces, should be collected and shall be packaged separately for submission to the Laboratory Division for analysis.
3. In a pedestrian hit and run, the victim's clothing should be collected to examine for presence of any vehicular paint evidence.

B. Breaking and Entering

1. A tool may be used to pry open a window or door to gain entry to a vehicle or building to commit a crime.
2. The tool used may have smears of paint on it from where it contacted painted surfaces.
3. The tool and standards from all damaged painted surfaces should be collected and shall be packaged separately for submission to the Laboratory Division for analysis.
4. See Laboratory Division's Physical Evidence Bulletin (PEB) #13 *Toolmarks* for additional instructions for toolmark evidence.

III. COLLECTING EVIDENCE

A. General Collection Guidance

1. Properly document and photograph all evidence (e.g., tools, smears, transfers, damaged areas, vehicle parts, debris, etc.) before collection.
2. To remove paint or plastic from a vehicle, a sharp metal blade (e.g., sharp knife or scalpel) should be used.
    a. Use the blade to cut straight down through the paint layers to the substrate (e.g., metal on a car, wood on a pole, etc.) and then run the blade across the substrate with pressure. This method ensures that all layers of the paint are collected. It is acceptable to have portions of the substrate adhering to the paint layers.
    b. Use a clean blade for each area sampled. Clean the blade often by wiping with a clean disposable towel to avoid contaminated samples.
    c. Collect at least ¼ inch by ¼ inch samples down to the substrate when possible.
3. For larger items found at the scene of an incident (e.g., tool, signal lenses, bumpers, etc.), the whole item should be collected when possible.

B. Vehicle Crashes

1. Questioned items to collect:
    a. Any areas of transfer (e.g., paint chips, smears, etc.) down to the substrate to ensure all layers of paint or plastic are collected. Collect and package each area of transfer separately.
    b. In hit and run cases, collect any paint, plastic, automotive parts, or other items of evidence found at the scene which can help identify vehicle(s) involved.
    c. If the hit and run involves a pedestrian, collect and properly dry the clothing of the victim so it can be searched for paint and other evidence.

2. Known standards to collect:
    a. A known standard is paint or plastic collected from the area of impact that has not been contaminated by the transfer from the other object.
    b. Known standards should be collected from each painted or plastic object with observed damage for comparison in the laboratory to any questioned items.
    c. If questioned broken automotive parts were collected at the scene, broken pieces should be collected from the vehicle suspected to be used in the crime and submitted to the Laboratory Division for comparison purposes.
    d. Known standards should not be collected from rust spots on the vehicle unless that is the area of paint that could have been transferred.
    e. Collect and package each area separately.

C. Breaking and Entering Cases

1. Collect evidence in a manner that any tool mark impressions are preserved for possible laboratory examination per the instructions in PEB-13 *Toolmarks*.
2. Do not place the tool into the impression at the scene.
3. Questioned items to collect:
    a. Collect any tool(s) which could have been used to gain entry to something (e.g., a building, vehicle, safe, etc.).
        i. These tools can have paint or other substances adhering to them from the object that was opened.
        ii. Submit the whole tool that is suspected of being used in the case.
        iii. Wrap end with suspected paint transfer in clean paper to avoid loss of evidence.
    b. Collect any transfer found at the crime scene that could have originated from paint on a tool that was used to gain entry. Paint from the tool(s) could have transferred onto these areas.
4. Known standards to collect:
    a. A known standard is paint collected from the point of entry that has not been contaminated by contact with or transfer from the entry tool.
    b. Known standards should be submitted from all painted objects and building materials involved.
    c. If multiple points of entry or transfer are present, known standards should be submitted from all of these areas and shall be packaged separately.

IV. PACKAGING EVIDENCE

A. Evidence shall be packaged in a manner to preserve the integrity of the evidence and to avoid loss and contamination per the requirements noted in PEB-20 *Evidence Packaging and Submissions Guidelines*.

B. Small items (e.g., paint chips and building materials) should be wrapped in a paper bindle and placed into a pill box or glass vial.

1. Seal all openings completely to avoid loss and/or contamination of evidence.
2. Package the pill box or vial in a sealed plastic bag.

C. Large items (e.g., vehicle parts) shall be packaged in a size appropriate paper bag or cardboard box.

1. Large items that can cut or poke through a bag (e.g., tire iron) shall be packaged in size appropriate cardboard box.
2. Seal all seams of the packaging completely to avoid loss and/or contamination of trace evidence.

D. Clothing items should be air dried, wrapped in paper to avoid loss of evidence, and packaged in size appropriate paper bags. Seal all openings completely to avoid loss and/or contamination of evidence.

E. Label all evidence packaging per the requirements in Laboratory Division PEB #20 *Evidence Packaging and Submissions Guidelines*.

F. Note on the Request for Laboratory Examination Form the specific source (e.g., R/F fender 2019 blue Ford Taurus, license #ABC123) of each item submitted to the Laboratory Division for analysis.

G. When a no suspect hit and run is submitted to the Laboratory Division, it shall be noted on the Request for Laboratory Examination Form that a Paint Data Query (PDQ) examination is desired to attempt to determine the make and model of the suspect vehicle.

V. EXPLANATION OF RESULTS FROM LABORATORY EXAMINATION OF PAINT AND PLASTIC EVIDENCE

A. Determination as to whether questioned paint and/or plastic items are the same type and similar color as the standard.

B. Determination as to whether questioned and standard paint and/or plastic items share similar macroscopic, microscopic, and chemical characteristics

C. An opinion as to whether questioned paint and/or plastic could have originated from the standard.

VI. CONTACT INFORMATION

For further information please contact the Indiana State Police Laboratory Division Microanalysis (Trace) Unit at 1-866-855-2840 or 317-921-5300.