CALIFORNIA DEPARTMENT OF JUSTICE
BUREAU OF FORENSIC SERVICES

Physical Evidence Bulletin
Paint Evidence

Purpose

Paint may be left at the scene of a variety of incidents, including vehicle hit and run, breaking and entering, assaults, etc. Paint may be left as chips or smears on clothing, vehicles, or objects, or loose at the scene. Additionally, cross transfers of paint between two vehicles, a vehicle and an object, or two objects may occur.

The Physical Evidence Bulletin is a guideline intended for law enforcement agencies for the collection and submission of evidence to BFS Laboratories. Physical Evidence Bulletins are not intended to be used in lieu of training in the collection of evidence.

Analysis and results that may be obtained

The Bureau of Forensic Services (BFS) provides analytical support to law enforcement agencies through the examination of paint evidence. Paint evidence occurs as transfers in a variety of crimes, including vehicular hit-and-runs, assaults, and burglaries. Types of paint evidence that is usually encountered include automotive, architectural, and maintenance paints. Paint analysis can also include other coatings and polymers.

In cases of hit-and-run, other evidence such as broken lenses or other vehicular body parts may be recovered. Paint chips and other items of evidence found at the scene can sometimes form a physical fit with corresponding paint or automotive parts in damaged areas on a suspect vehicle, thereby making a definitive association (e.g. the paint or body part came from a particular vehicle).

It is sometimes possible to obtain information on makes/models/years of possible source vehicles from paint and associated evidence using the PDQ (Paint Data Query) paint database. The database contains information on Original Equipment Manufacturer (OEM) automotive paint and is most effective when paint chips representing several layers are recovered. In addition, broken lenses or other vehicular parts that are present are useful in make/model searches and they should always be submitted to the laboratory along with any paint evidence.

Precautions

Painted objects often contain multiple layers of paint, not all of which may transfer. As an example, vehicles often have a clear coat as the top layer and this layer may be the only one that transfers. Additionally, different parts of a vehicle may contain different paint even though the paint in these areas appears to be the same color. Therefore, all areas showing any damage should be sampled.

Depending upon the case circumstances, other evidence may be present. An investigator may need to consider latent prints, toolmarks, broken glass, shoe/tire prints, blood stains, saliva, and other trace evidence. See the Physical Evidence Bulletins for collection and preservation of other types of physical evidence.

Collection, marking, and packaging

General Packaging Considerations:

Place samples into separate appropriately sized containers (e.g., do not put very small items into very large envelopes) that help to prevent breakage or loss. Containers may be vials, metal or cardboard pillboxes, or paper bindles placed into envelopes. Plastic should not be used for the packaging of small/loose trace evidence due to static electricity. Do not pack with cotton or other protective material directly touching the object. All edges/corners of envelopes should be sealed to prevent sample loss.

Do not package wet evidence. Clothing or objects containing paint evidence should be air dried prior to packaging. Items may be wrapped in paper and then placed into an appropriate container. Do not wrap items on a table top without first thoroughly cleaning that surface. Avoid cross contamination between evidence and reference samples.

As a last resort, paint chips can be collected using tape lifts. If tape must be used, a type with the least amount of adhesive (e.g., magic tape) should be selected. Package tape lifts in clear page protector sheets, plastic or Kapak bags. Do not allow tape to adhere to itself or adhere to other packaging materials such as brown paper bags or cardboard. Do not use fingerprint lift tape.

PAINT AT A SCENE:

All paint samples that are left at a scene should be collected. Additional evidence may also be present and should be collected. Examples of such evidence are automotive parts, glass, and plastic lens pieces at a hit-and-run, or plaster, wood, and safe insulation at a breaking and entering.

PAINT ON VEHICLES:

Loose paint chips:
Collect into appropriate containers such as glass vials, or cardboard pillboxes to prevent breakage of the chips.

Transferred paint smears:
If possible, flake off loose chips of paint from damaged areas on the vehicle that contain visible smears of paint. If it is not possible to flake off chips, then attempt to cut around the areas with the smears using a clean, sharp blade taking care to keep the smears intact and to include the original surface containing the smear. Keep all transfers recovered from different areas in separate containers.

Reference Samples:
Collect exemplar paint samples from areas of fresh damage and from areas adjacent to the damage. The reference samples must include all layers of paint down to the metal or base surface of the vehicle. If the paint can be flaked off by bending the surface slightly, remove it in this manner. If not, cut the paint off using a clean knife blade, or razor blade. Use a new blade for each sample collected, if possible. If not,

thoroughly clean the blade between samples. The exemplar samples should represent an area of at least ¼" x ¼", if possible. Place samples collected from different areas in separate containers.

PAINT ON CLOTHING:

Paint may transfer to the clothing of a hit-and-run victim, perpetrator of a burglary, or other person involved in an incident. Take caution when handling clothing to minimize loss of potential evidence. **All** clothing, including shoes should be collected, dried, and packaged separately.

Paint evidence on clothing may be present as chips or smears. The size of the chips or smears may range from large and visible to microscopic and invisible to the naked eye. Loose, visible chips that are easily handled may be removed and packaged separately in appropriate containers that avoid breakage of the chips. If the article of clothing is damp, it should be air dried and packaged to minimize loss of the paint evidence. For example, individually wrap the clothing items in butcher paper and place the butcher paper package into a paper bag. Do not excessively handle the evidence.

PAINT ON AN OBJECT:

Paint on an object is usually transferred as a smear or small chips. If possible, collect and submit the object in its entirety. If the object is too large to be collected in its entirety, collect the paint as outlined above for paint transfers on vehicles. If the object is also painted, collect a reference sample from the object as well including all layers down to the base surface.

TOOLS:

Tools used to gain entry into buildings, safes, or other objects often contain traces of paint as well as other substances such as plaster, safe insulation, wood, etc. Care must be taken to ensure that this type of trace evidence is not lost. Submit the tool in its entirety in an appropriately sized container. The tool may be wrapped in paper to preserve adhering evidence. **Do not attempt to fit the tool into marks or impressions found at the scene**. If this is done, transfers of paint or other material might occur and any material later found will not be significant as evidence.

Collect specimens of paint, to include all layers present, near all areas with which the tool may have had contact at the crime scene.

The tool itself may be painted and traces of this paint could be left at the crime scene, either on the toolmark or on the ground below the damaged area. A careful visual search should be made of each tool mark for any such evidence (See Physical Evidence Bulletin #27 for the handling of tool mark evidence). If present the paint should be documented and collected as described above for paint evidence on vehicles. Make every effort to remove, package and transport the whole object with the toolmark to the lab.

Submission of evidence to the laboratory	Label the container with the agency case number, item number, and brief description as appropriate. Tape seal the container; date and initial the seal. Submit evidence to the laboratory along with a completed Physical Evidence Submission Form (BFS-1) and, if available, a case report or case summary.
For further information and additional resources	Please contact your regional BFS laboratory with any further questions that you may have. For a list of regional laboratories please go to: https://oag.ca.gov/bfs/services To locate the most current Physical Evidence Bulletins please go to: https://oag.ca.gov/bfs/peb