Forensic Chemistry Section

Paint Analysis Method

1. Scope

This document outlines the method for analyzing paint evidence.

2. Safety

2.1 Disposable laboratory coats and disposable gloves will be worn as necessary.

2.2 The examiner will wear cryogenic gloves and safety goggles when handling liquid nitrogen.

3. Paint Analysis

3.1 Paint examination will generally proceed in the following order until a point where the examiner concludes that questioned and known paint samples are dissimilar. If no such conclusion is reached, the examiner will determine the paint samples to be similar.

- macroscopic examination
- stereomicroscopy
- microspectrophotometry
- FT-IR microspectroscopy

3.2 The examiner will note the macroscopic qualities, which may include but are not limited to amount and form of sample, texture, color, etc.

3.3 If the paint sample is on a hard surface such as car door, tool, etc., the examiner will remove the paint sample with a scalpel or razor blade. The examiner will carefully scrape the paint from the item while ensuring the layers remain intact.

3.4 The examiner will perform a stereomicroscopic examination. This comparison may include, but is not limited to, color, layer sequence, layer thickness, texture. The examiner will note the results.

3.5 An instrumental comparison of the color of significant layers of known and unknown paint samples may be performed using a microspectrophotometer at the examiners discretion. Resulting spectra will be included in the case folder.

3.6 The chemical composition of significant layers of questioned and known paint samples will be compared using a FT-IR microspectrometer. Resulting spectra will be included in the case folder.