

## **Did you know...?**

Paint is a material in widespread use as a decorative and protective finish, the most common usage being on vehicles and domestic items. The term "*Paint*" is a generic one which includes lacquers, varnishes and emulsions. Almost all paints comprise a pigment (or pigments) to give colour, extenders to bulk out the pigment, a resin or polymer to bind the particles of pigment and extender together, and a liquid vehicle. Over a period of time, household surfaces may be painted numerous times, which can result in a "unique" combination of layers of paint.

Vehicle paints generally comprise multiple layers; undercoats, topcoats and sometimes a lacquer or resin finish. During a collision between vehicles there may be an exchange of paint.

Paints are often described in terms of their colour, shade (more precisely, hue) and brightness together with a description of its surface texture.

Items recovered from people or property can be examined for the presence of paint which can then be compared with reference (control) samples using a range of microscopic techniques. If the samples are suitable, further analysis can be performed.

A given sample of paint can be analysed and compared with a "control" sample in a number of ways including:

- Visual examination of the surfaces and layer structure using a range of macroscopical and microscopical techniques
- Chemical tests to assist in determining the type(s) of paint present and the similarity between the control and suspect samples
- Instrumental techniques such as Fourier Transform Infra-Red, Pyrolysis gas chromatography and pyrolysis mass spectrometry

The similarity between the two or more samples of paint can then be assessed in the light of the circumstances of the case, taking into account the commonness of the paint, or combination of paints found.