



Special Security Pigments



- ✓ UV-active pigments are used nowadays in money, passports and prescriptions.
- ✓ This stops fraud occurring as they are hard to recreate.
- ✓ UV light excites the pigment molecule so that it emits light.
- ✓ Thermo-chromic (colour-change due to heat) and photo-chromic (colour-change due to sunlight) pigments are used for safety reasons on frying pans and kettles and for other novel ideas like nail varnish and perfectly cooked eggs.
- ✓ Lustre pigments (pearl-like) are also playing an important role in future colours, particularly in cosmetics and car paint.

You Will Need:

- different types of banknotes from different countries
- UV lamp
- microscope with both reflected and transmitted light modes
- de la rue brochures



Bank Notes

1. Place your first bank note under the lens of the microscope.
2. Using the microscope in reflected light mode, adjust the focus until the note can be seen clearly (ask a demonstrator for help).
3. Turn to transmitted light mode and notice the difference if any. Note any watermarks that you have noticed down in the 'reflected light/transmitted light' column of the table.
4. Do this with the 20 different bank notes, writing only brief notes on each.
5. Using the UV light in long wavelength mode, look at the notes in turn and note down any patterns or differences that you see in the 'UV light' column of the table.

De La Rue Brochures

- De La Rue make bank notes and protect companies against counterfeit.
- Look at their brochures and see the different types of security solutions (more information on the back).
- Look at the sample labels under UV light and a microscope.
- The purple strip on label C is thermo-chromic. Rub it and see what appears.

QUESTIONS

1. Which 5 bank notes would you say were the easiest to forge and why?
2. Which bank note had a fluorescent feather on it?